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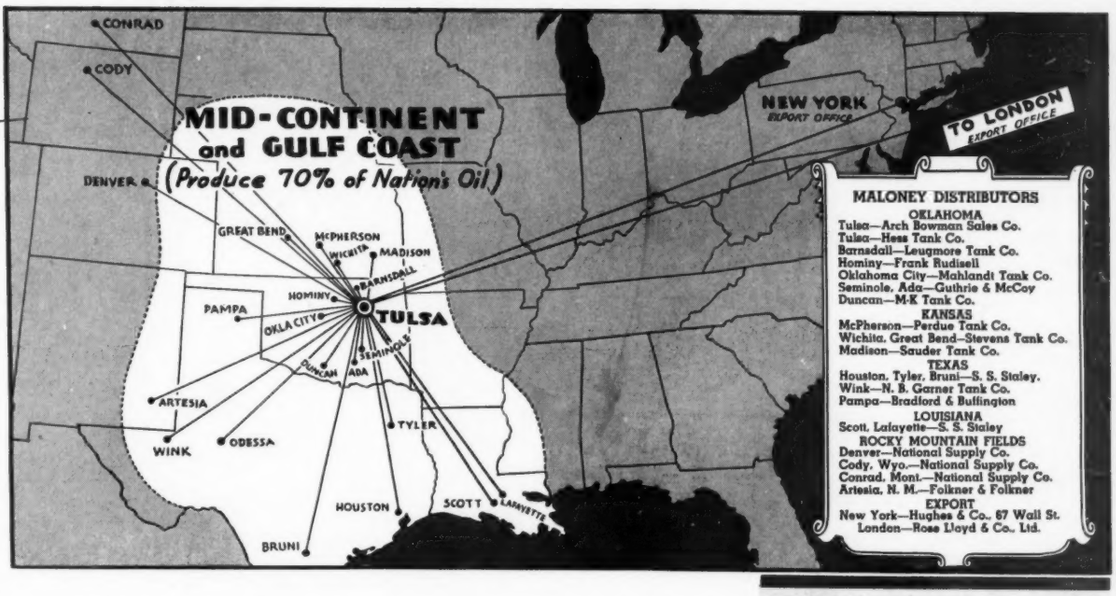
The OIL AND GAS JOURNAL



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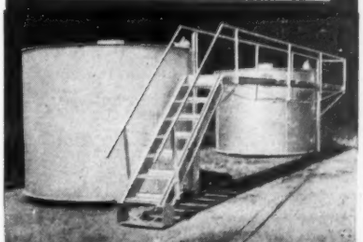

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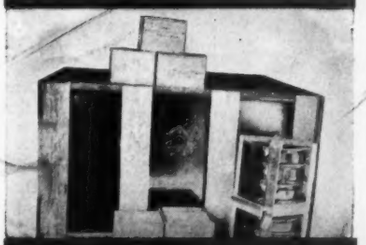

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Getting closer to China with HOWCO Facilities

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Include:

1—CEMENTING EQUIPMENT—The fastest known method of mixing cement.

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THE OIL AND GAS JOURNAL

Volume 33
Number 48

April 18, 1935

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OIL MAN'S CALENDAR

April

18-19—Cleveland, Ohio, National Petroleum Association, semiannual meeting, Hotel Cleveland.
22—New York, American Chemical Society, semiannual meeting.
25-26—San Antonio, Tex., American Petroleum Institute Southwestern Production Division, Plaza Hotel, spring meeting.

May

1-3—Tulsa, Natural Gasoline Association of America, Hotel Tulsa.
6-9—Memphis, Tenn., Natural Gas Department, A.G.A., Peabody Hotel.
8-11—Tulsa, Oil and Gas Power Diision of A.S.M.E., Mayo Hotel.
14-16—Tulsa, American Petroleum Institute, fifth mid-year meeting, Mayo Hotel.
14-16—Wilmington, Del., American Institute of Chemical Engineers, semiannual meeting.

June

20-21—State College, Pa., Pennsylvania Grade Crude Oil Association, annual meeting.
24-28—Detroit, Mich., American Society for Testing Materials, annual meeting, Book Cadillac Hotel.

August

?—American Petroleum Equipment Suppliers Association, place to be named later.

September

18-20—Hot Springs, Ark., North American Gasoline Tax Conference.
25-27—Atlantic City, N. J., National Petroleum Association, annual meeting, Hotel Traymore.

November

4-5—Dallas, Tex., I.P.A.A., annual convention.
11-14—Los Angeles, Calif., American Petroleum Institute, sixteenth annual meeting, Biltmore Hotel.

December

(?)—Dallas, Tex., Mid-Continent Oil and Gas Association.

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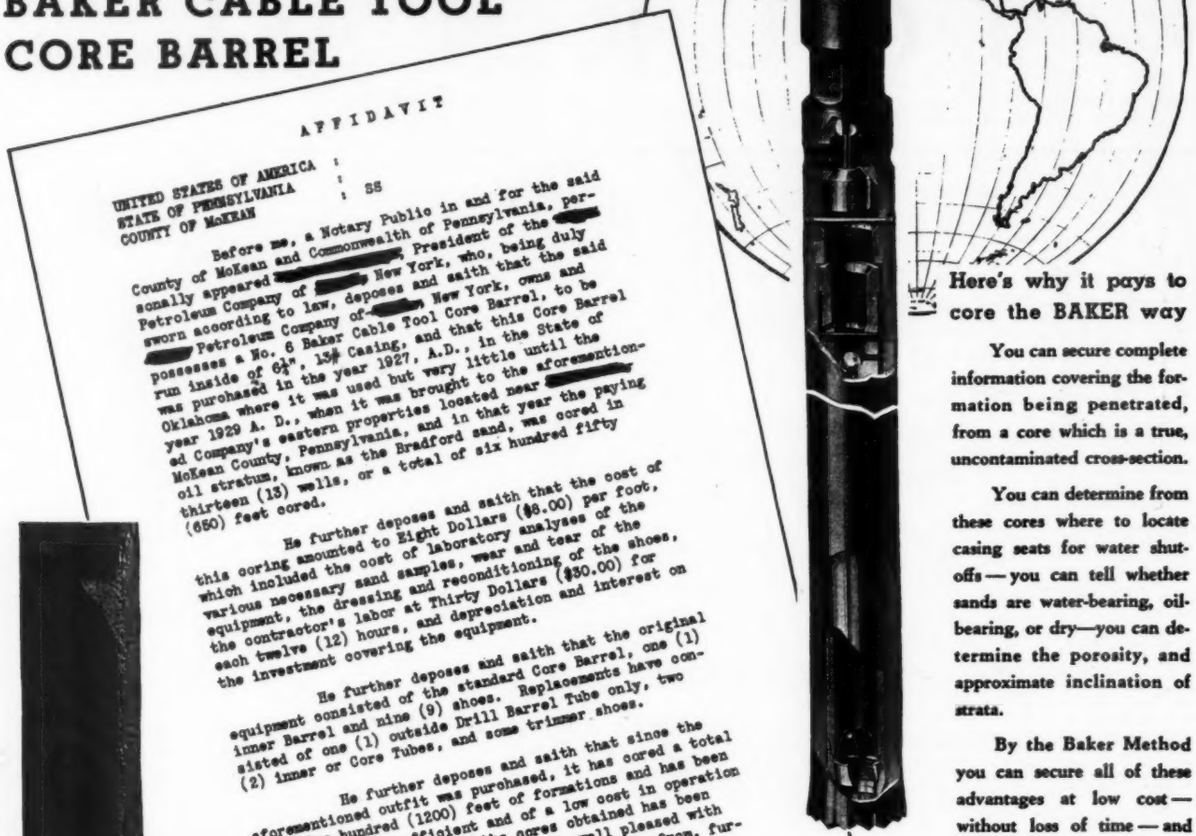


AFFIDAVIT

UNITED STATES OF AMERICA :
STATE OF PENNSYLVANIA : SS
COUNTY OF McKEAN :

Before me, a Notary Public in and for the said County of McKean and Commonwealth of Pennsylvania, personally appeared [redacted], President of the [redacted] Petroleum Company of [redacted], New York, who, being duly sworn according to law, deposes and saith that the said [redacted] Petroleum Company of [redacted], New York, owns and possesses a No. 6 Baker Cable Tool Core Barrel, to be run inside of 6¼", 15# Casing, and that this Core Barrel was purchased in the year 1927, A.D., in the State of Oklahoma where it was used but very little until the year 1929 A. D., when it was brought to the aforementioned Company's eastern properties located near [redacted] McKean County, Pennsylvania, and in that year the paying oil stratum, known as the Bradford sand, was cored in thirteen (13) wells, or a total of six hundred fifty (650) feet cored.

He further deposes and saith that the cost of this coring amounted to Eight Dollars ($8.00) per foot, which included the cost of laboratory analyses of the various necessary sand samples, wear and tear of the equipment, the dressing and reconditioning of the shoes, the contractor's labor at Thirty Dollars ($30.00) for each twelve (12) hours, and depreciation and interest on the investment covering the equipment.

He further deposes and saith that the original equipment consisted of the standard Core Barrel, one (1) inner Barrel and nine (9) shoes. Replacements have consisted of one (1) outside Drill Barrel Tube only, two (2) inner or Core Tubes, and some trimmer shoes.

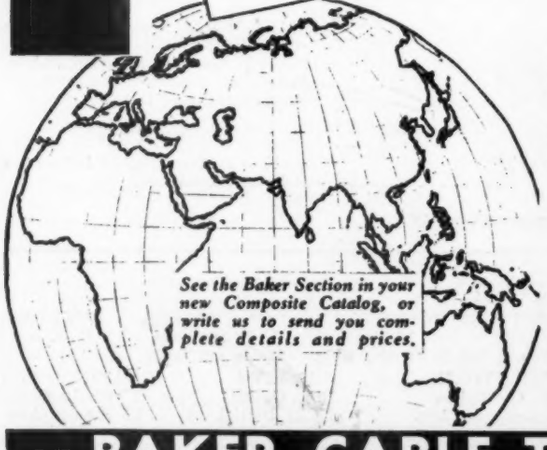
He further deposes and saith that since the aforementioned outfit was purchased, it has cored a total of twelve hundred (1200) feet of formations and has been found to be very efficient and of a low cost in operation and that the character of the cores obtained has been entirely satisfactory and that he is well pleased with the Core Barrel and the results obtained therefrom, further the deponent saith naught.

Sworn and Subscribed to before me this 22nd day of November, A.D.1934.

[redacted]
Notary Public

Seal

[redacted]



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You can secure complete information covering the formation being penetrated, from a core which is a true, uncontaminated cross-section.

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By the Baker Method you can secure all of these advantages at low cost — without loss of time — and you can always be sure of core recovery with better than 80% average.

And HERE'S WHY THE BAKER CABLE TOOL CORE BARREL TAKES BETTER CORES!

The design and operation of this tool have both been proved by thousands of runs in many types of formation and in practically every major field in which cable tools are used.

The principle of having the inner (or core retaining) tube rest upon the formation while the outer (or drilling) barrel cuts the core, has proved satisfactory in hard or soft, loose or consolidated formations.

In operation the fluid is forced downward between the outer and inner tubes to keep the cutting teeth of the drill shoe and the trimmer shoe cool and clean. This results in fast cutting and longer life of the sharp cutting teeth.

Simplicity of operation is another vital advantage. All you need to do is . . . keep the valves clean — shorten the drilling stroke — slow down the drilling motion—and drill with a slightly slackened line. Merely follow these easy, simple rules and any experienced driller will start taking good cores right from the start, and at the same time will lose no time in drilling full-gage hole as rapidly as with an ordinary drilling bit.

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BAKER OIL TOOLS, INC.

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Decrease in Number of East Texas Operations Encourages Drilling Activities in Other States

By JAMES McINTYRE

THE downward trend in crude oil production which started in the middle of March was broken in the past week to force the daily average above 2,600,000 barrels for the fourth time this year. The greater share of the increase came from the Oklahoma fields, the only other important change being in California where curtailed operations in the Kettleman Hills area failed to overcome the greater activities throughout the balance of the state.

Encouragement for expanding crude production comes from reports of improved refinery and retail gasoline prices in all areas, peak automobile registrations, revival of oil export markets and effective control of operations in East Texas but these influences can be nullified by a prolonged disregard for an orderly program of production. The demand for crude during 1935 is expected to permit increasing the output by 4 per cent using 1934 as a basis and will also provide for reducing stocks in an economic level, but this far this year, production has been in excess of the 4 per cent planned.

New locations in the East Texas Field slumped to 98 for the past week and completions declined to 101. A rapidly growing number of wells is being placed on the pump throughout the entire field, including some new completions. West Texas is gradually reviving as an area of major activities and in the past week 15 tests were completed, none of which offered promise of much new oil, however. The most important was a two-mile extension to a small pool in northern Crane County.

On the Gulf Coast, attention was focused upon the Port Lavaca Field in northern Calhoun County where 4 new locations were made in quick succession following the completion of The Texas Company's discovery well now making 574 barrels daily through a quarter inch choke and under a tubing pressure of 1,450 pounds.

Within the Mid-Continent area, Kansas and Oklahoma provided the bulk of new activities, 313 operations being shown for Kansas including 19 completions which added 11,032 barrels to the daily output. At present 74 wildcat tests are being drilled in Kansas. Oklahoma producers saw a one-fourth-mile extension proved for the Fitts Pool when a well drilled into the McLish sand yielded 197 barrels the first hour.

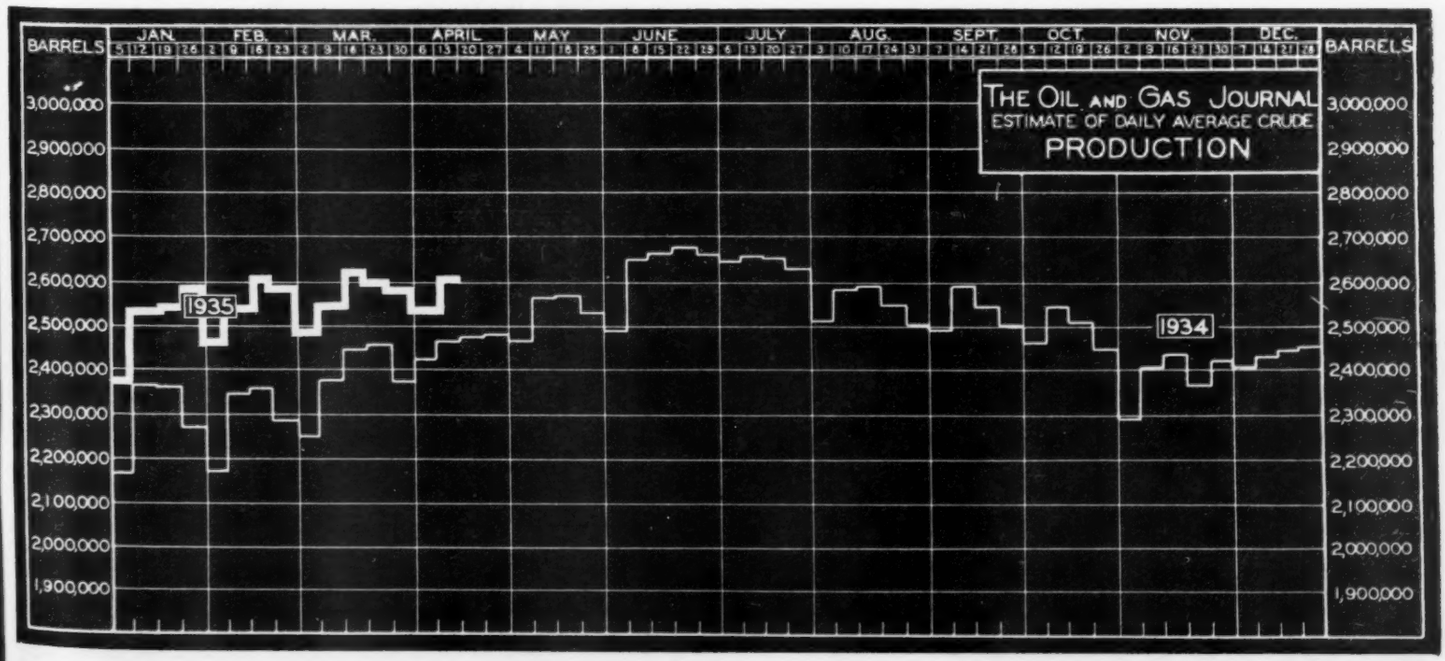
Four completions and 12 new locations in New Mexico summarizes the growing activities in this territory. In the Hobbs Pool, Capitan Oil Company's No. 1 came in with an initial production of 19,152 barrels of oil and 18,000,000 feet of gas extending the field one unit east. Shell Petroleum Corporation's No. 2D State made an initial flow of 8,473 barrels extending the pool one unit to the northwest.

Crude Oil Production in the United States

Estimated daily average production for the week ending April 13, a comparison with previous week and the Federal allowables follow:

		Federal allowable	
Oklahoma—	April 13	April	April 6
Oklahoma City	179,550	.....	122,450
Seminole-St. Louis	102,475	.....	85,220
Remainder of State	247,825	.....	265,655
Total Oklahoma	529,850	493,300	473,325
East Texas—			
Lathrop	159,610	.....	159,612
Kilgore	155,307	.....	153,523
Joiner	153,534	.....	150,612
Total East Texas	468,451	.....	463,747
West Texas	144,970	.....	146,021
North Central Texas	88,487	.....	90,253
Texas Panhandle	55,683	.....	61,895
East Central Texas	49,773	.....	51,304
Gulf Coast—Texas	179,184	.....	180,287
Southwest Texas	61,453	.....	60,930
Total State of Texas	1,048,001	1,021,000	1,054,437
Kansas	144,025	141,000	144,950
North Louisiana	22,960	.....	23,045
Gulf Coast—Louisiana	100,210	.....	96,833
Total Louisiana	123,170	111,000	119,878
Arkansas	30,375	30,700	30,585
Eastern Fields (except Michigan)	106,000	106,900	107,250
Michigan	37,850	32,700	37,189
Rocky Mountain area	98,540	97,400	98,140
California—			
Santa Fe Springs	40,500	.....	37,500
Long Beach	71,000	.....	63,500
Mountain View	10,400	.....	9,750
Elwood	11,500	.....	10,100
Kettleman Hills	52,000	.....	68,400
Remainder of State	311,600	.....	290,750
Total California	497,000	493,300	480,000
Total United States	2,614,811	2,527,300	2,545,754

Increase 69,057 Bbls. Daily.



The Bulletin Board

N.R.A. Revision should be delayed until the Supreme Court has passed upon the constitutional issues involved in the opinion of a growing bloc of congressmen who oppose premature enactment of new legislation that may not stand up.

•

Solvent Refining lubricating oils made from Pennsylvania grade crudes will be covered in a symposium of papers and prepared discussions at the annual Mineral Industries Conference at Pennsylvania State College, April 26 and 27.

•

Oil Exports valued at a quarter of a billion dollars can be expanded by the use of trade agreements.

•

Electrical Association of the petroleum industry in annual meeting at Dallas, decides to hold next year's meeting in Tulsa.

•

Amarillo Meeting of A. P. I. Division of Production, Mid-Continent district, listens to live discussions, chooses new officers and hears federal government criticized for alleged encroachment on state rights.

•

Vapor Recovery plant of exceptionally simple design and yet practically automatic in its entire operation, with 1000-gallon capacity, has just been placed in operation by Sunray Oil Co. at its Allen, Oklahoma refinery.

•

Natural Gasoline Association of America has arranged for a symposium on motor fuel volatility at its annual convention in Tulsa May 1 to 3 inclusive and outstanding automotive engineers will discuss the problems of the motor car manufacturer in arriving at optimum service conditions.

•

Curtailment of crude production was urged at the annual meeting of Bradford District Pennsylvania Oil Producers Association.

•

Pennsylvania Operators are combing the region for properties to build up reserve.

•

Panhandle Gas Line corporation bill seems assured of action in Texas legislature at this session. House committee reports it favorably.

Thomas Bill hearings open before the Senate Committee. Judge Beaty, President Byles and Chairman Thompson of Texas Railroad Commission issue statements. Opposition to the bill in the House may prevent its enactment.

•

Pipe Line Companies have been notified of revised regulations covering the filing of reports required by Interstate Commerce Commission survey.

•

Truck Shipments of "hot" oil or products in intrastate traffic would be subject to fines under a bill passed by the Texas House of Representatives.

•

Fitts Pool production problems are made simpler and easier of study through information obtained by completing several wells with pressure control method recently. Application of this method to other wells has resulted in extension of production area of field as well as indicating that deeper formations than previously penetrated may be productive of oil in all parts of the field.

•

Thirty Miles of Gas Line to be laid in Michigan following deal between new Petroleum Transportation Company and Consumers Power Company in Montcalm and Mecosta counties.

•

Gasoline Allowable for May has been placed at 36,420,000 barrels, an increase of 1,900,000 barrels. Administrator Ickes is advised refinery gasoline inventories should be reduced 2,180,000 barrels.

•

Asphalt and Gas research to be featured at American Chemical Society convention in New York next week.

•

Barnsdall Corporation directors to pass upon proposed change in corporate structure.

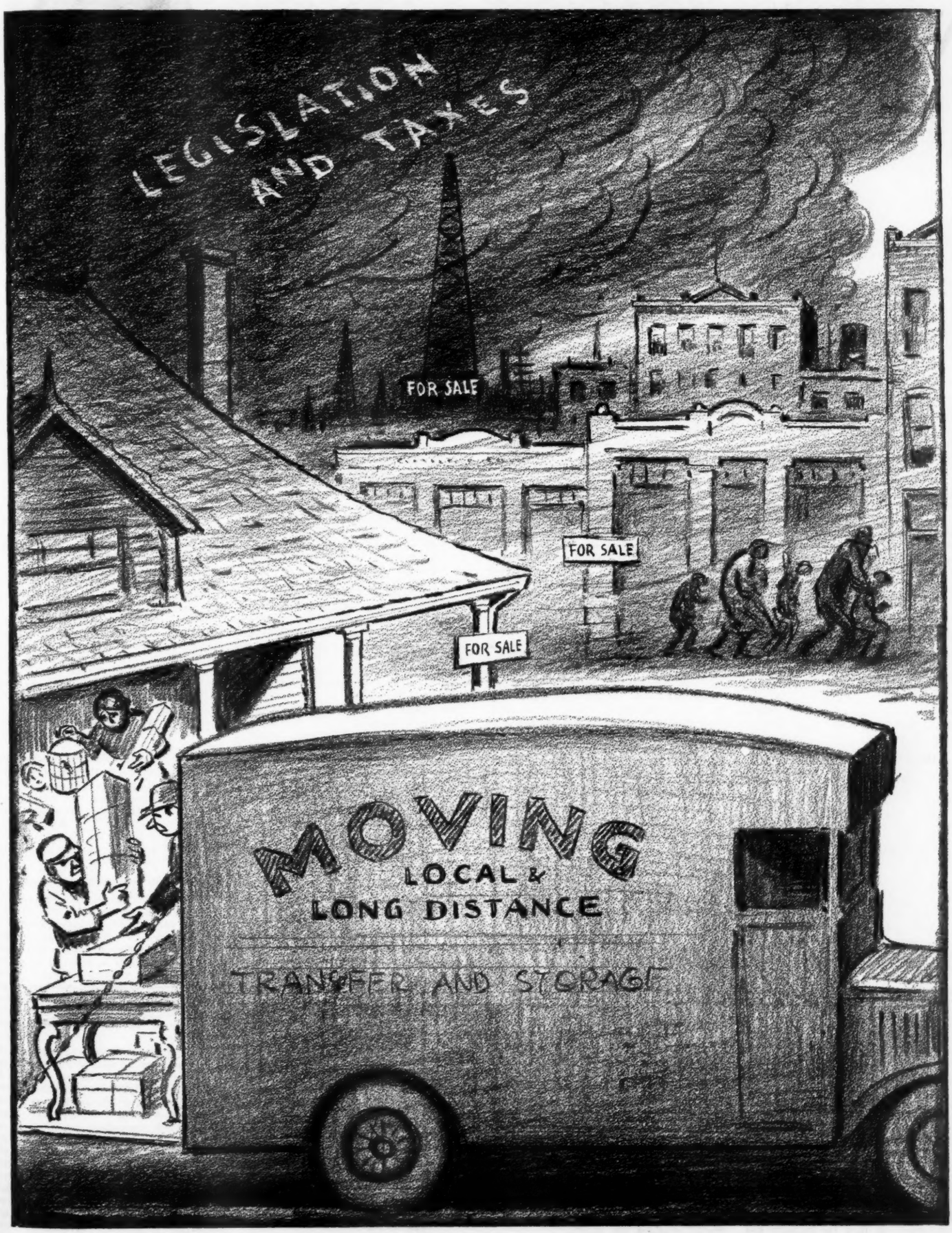
•

Administrator Ickes tells Senate Committee federal control is essential to conserve national resource and asserts states cannot control situation.

•

Technical Committee of the California natural gasoline association has outlined an exceptionally important program of research for 1935 according to P. S. Macgruder of the General Petroleum Corp., who is chairman of the committee.

Smothering and Stifling Recovery



—Drawn Exclusively for The Oil and Gas Journal.

Wide Range of Subjects Covered at Amarillo Meeting of Oil Men

By T. F. SMILEY

AMARILLO, Tex., Apr. 13.—J. C. Johnston, Continental Oil Co., Borger, Tex., was elected chairman of the American Petroleum Institute Division of Production, Mid-Continent district, at the closing session of the two-day spring meeting of the district held here Wednesday and Thursday of this week. Mr. Johnston was chairman last year of the Panhandle chapter, which acted as host at this week's meeting. Other officers chosen were: Vice chairmen, T. J. Hamilton, Phillips Petroleum Co., Great Bend, Kans.; M. W. Birmingham, Indian Territory Illuminating Oil Co., Oklahoma City, Okla., and C. A. Daniels, Phillips Petroleum Co., Borger; secretary-treasurer, G. A. Halloway, Lee C. Moore Co., Wichita, Kans. All sessions were held in the Herring Hotel and there were about 500 registrations from Texas, Oklahoma, Kansas, New Mexico, and Colorado.

Comments on the convention went farther than references to the excellence of the papers, the wide range of subjects covered, the smooth running of the program, and the friendly hospitality of the Panhandle chapter. Visitors expressed admiration for the pluck and tenacity with which oil and gas men of the area had carried on in the face of an unusual combination of discouragements during the last few years.

Mayor Ross D. Rogers, of Amarillo, who delivered an address of welcome at the opening session Wednesday morning, epitomized the region's troubles as "drouth, dust and depression." These, he said, had called for reserves of faith and resolution.

Have Kept Their Heads Up

"But," said Mayor Rogers, "I want you to know that the oil and gas men of this district have kept their heads up. They have kept on fighting. They are not disheartened. They have not allowed themselves to forget that even such things as drouth and dust and depression have an end."

C. O. Rison, of the Indian Territory Illuminating Oil Co., Oklahoma City, outgoing chairman of the Mid-Continent district, presided at the Wednesday forenoon session. He paid a tribute to men who had been active in perfecting plans for the convention, including J. C. Johnston, chapter chairman; C. A. Daniels, chairman of the program committee; Johnnie Moran, district secretary-treasurer; Claude Hildebrand, land man for the Phillips Petroleum Co. in Amarillo, and members of the publicity committee.

Col. E. O. Thompson, chairman of the Texas Railroad Commission, who was to have spoken Wednesday morning on "Technical Testimony on Oil and Gas," was unable to be present on account of illness. Attorney James O. Guleke, of Amarillo, member of the State Board of Education, appeared in his place, discussing the relative powers of the federal and state governments as they concern the oil and gas industry.

"The problems of the oil and gas industry in this state," said Mr. Guleke, "are bound up with the problems involved in our theory of dual sovereignty in government. In fact, the industry has become symbolic of the clash of opinion relating to the boundaries of federal and state authority. I believe there is a well-defined current of sentiment in favor of the view that the states must preserve the sovereignty originally reposed in them and resist federal encroachment. I look upon the Panama Refining decision as indicating the line of cleavage between state and federal power.

Columbus Original New Dealer

"The 'new deal' has projected some theories of government, hazy though they may be in some instances, that offer a challenge to the oil and gas industry. Columbus was the original new dealer. He started out without knowing where he was going. He didn't know where he was when he got there. He didn't know where he'd been when he got home to report. And he did it all on borrowed money.

"The Federal Government has just authorized expenditure of an enormous relief fund. You oil and gas men needn't fear that you will be overlooked when the debt is passed around. My prediction is that your industry will be taxed more severely than ever. And if this district wants some of the money returned for use right here, where it is sorely needed, it will have to get down on its knees and beg for it."

Dr. Charles N. Gould, director of the Oklahoma Geological Survey, told the story of the discovery of the Panhandle oil and gas field. With Prof. E. G. Woodruff, then instructor in mineralogy at the University of Oklahoma, in 1904, and with students from the university in 1905, Doctor Gould devoted the two summers to a geological study of the 12 eastern counties of the Panhandle. The results of the work were written up and published as two U. S. Geological Survey reports. In one of these mention was made for the first time of anticlines and synclines along the Canadian River.

In those days nobody got excited over finding an anticline. Time passed, Doctor Gould had forgotten all about the reports, and in 1916 he was a consulting geologist in Oklahoma City when two strangers entered his office. They were M. C. Nobles, a wholesale grocer of Amarillo, and T. J. Moore, a traveling salesman for the grocery firm. They wanted him to inspect some oil leases which the latter had obtained near Tishomingo, Okla. He did so and was obliged to tell them there was nothing that looked favorable for oil or gas. They were disappointed, but paid for Doctor Gould's services without question.

As the two men were about to leave the geologist after their business had been closed up Mr. Nobles asked: "Doctor Gould, do you happen to know of any place near Amarillo or anywhere in the Panhandle that might look favorable for oil?"

Then He Remembered

Doctor Gould recalled the anticlines he had found in 1904 and 1905 and said, "Yes, there are some big domes along the Canadian River north of Amarillo." He described minutely the location of the biggest one.

"Why, that will be on the Masterson ranch," rejoined the other.

As a result of this conversation Doctor Gould went to Amarillo and made an examination of the territory with a view of locating the structure. Soon afterward the Greater Amarillo Oil Co. was organized with Mr. Nobles and R. B. Masterson, owner of the ranch, among the stockholders. Taking the geologist's maxim, "Sock 'er on the nose," as his guide Doctor Gould recommended the highest point on the structure 30 miles north of Amarillo, in northern Potter County, as the site for a test well.

Addressing a group of white-hatted, high-booted cattlemen and hard-headed Amarillo business men, members of the new oil company, who had driven to the spot, Doctor Gould said: "Nobody knows whether the Lord has put any oil or gas in the Panhandle of Texas. The only way to find out is to drill a hole in the ground. The most likely place I know of to drill this first well is right on this spot. The reason is that this appears to be the highest point of an immense dome. Because of the size of this structure and because we are to drill near the top I believe this well is more likely to find gas than oil."

Tried to Size Him Up

Mr. Masterson later told Doctor Gould: "While you were making that talk I was trying to make up my mind whether you were a damned fool, a smart guy or a tremendous bluffer."

The well was completed in December, 1918, producing 15,000,000 feet of gas daily.

The history of the Panhandle Field from the completion of the No. 1 Masterson, along with its general geology, in a paper prepared by the Panhandle Geological Society, was read by L. R. Hagy.

"Panhandle Drilling and Use of the Miller Method of Balancing Gas Pressures," was the subject of a paper presented by H. E. Rogers, consulting engineer of Amarillo.

E. L. Bell, of the Deep Rock Oil Corp., Drumright, Okla., presided Wednesday afternoon, when two papers were read. The first one, on "The History, Use and Manufacture of Carbon Black," was prepared by R. G. Allen, Cabot Companies, and H. W. Price and E. B. Reinbold, J. M. Huber Corp. The function of carbon black as a reinforcing pigment in rubber and as an ingredient of free-flowing ink for high-speed printing presses was explained.

"Carbon black," it was stated, "when compounded into rubber, doubles its tensile strength and quadruples its resistance to abrasion. No doubt there are many other substances which would have these same qualities in rubber if they could be found or could be ground to the microscopic size of the carbon black particle. It is so fine that the highest-powered microscope has been unable to shed any light on its size or particle shape, and its size is only estimated by indirect methods of chemical calculation to be approximately 1/500,000 of an inch in diameter. Our raw material supply and our fuel are one and the same—natural gas."

Helium and Its Marvels

The second paper of the afternoon, "Helium From a Scientific Curiosity to Large-Scale Production," was prepared by C. C. Anderson, Helium Division, U. S. Bureau of Mines, Amarillo.

J. C. JOHNSTON

Mr. Anderson carried his hearers through an interesting story of how helium came to be discovered, its identification as a part of the earth, scientific studies of its characteristics and sources from which it might be obtained, and eventually its large-scale production. Probably no element has seemed to offer smaller prospects of production in quantity, Mr. Anderson said, because the helium first detected as an element in the atmosphere of the sun, was 90,000,000 miles distant. A quarter century had passed before helium was found on earth.

Before the World War only a few cubic feet of helium had been produced and it had been sold at rates as high as $2,500 a cubic foot. But that did not prevent scientists from seeing in it possibilities as a lifting gas for lighter-than-air craft and from talking about it in terms of millions of cubic feet. After 17 years of study and development more than 100,000,000 feet of helium have been produced, the Government has a plant with a capacity of 100,000 feet of helium and the operating cost is less than 1 cent a foot. Mr. Anderson pointed out that the oil and gas industry has been closely associated with the work of the Bureau of Mines in bringing helium to the point of large-scale production.

M. J. Norrell, director of industrial relations, Magnolia Petroleum Co., presented the first paper at the Thursday morning session, which was presided over by Thomas Hamilton, Wichita, Kans. Taking as his subject, "A Job in the Petroleum Industry," Mr. Norrell deplored the public's lack of authentic information about the oil business.

Public Should Be Informed

"I conceive it to be our manifest job," said the speaker, "to give the public a correct background, a correct picture of the industry. In doing this our employes can be invaluable. I believe the public is at heart fair if it has the facts, but an uninformed public can hurt the industry much more than an openly antagonistic one. We must merit and we must hold public confidence, and our employes must be convinced of our sincerity."

"The use of pressure drilling methods and equipment is rapidly becoming more prevalent in the oil industry," said S. S. Parker, general manager of the Doheny Stone Drill Co. of Texas, in a paper on "Pressure Drilling." "There are many fields where immediate benefit may be obtained in the form of reduced drilling costs, greater safety of operations, larger initial production, more intelligent systems of producing wells; and future benefits result from the valuable knowledge received in enabling the operator more intelligently to plug wells and appraise properties if pressure drilling methods and equipment are used."

A paper on "Relation of Bottom Hole

Pressure to Production Control," by D. L. Katz and W. H. Barlow, Phillips Petroleum Co., Bartlesville, Okla., evoked lively discussion. It touched on the progress recorded in making bottom hole pressures useful tools in the production of crude oil.

"Value of Oil Well Surveying and Application of Controlled Directional Drilling," was the subject of a paper by James D. Hughes, of the Eastman Oil-well Survey Co., Houston, Tex. Mr. Hughes recited the difficulties of the past in drilling straight holes and said the operator today need not be ignorant of the direction a hole is bearing.

Packed House Hears Woodring

The auditorium was packed Thursday afternoon when Assistant Secretary of War Harry H. Woodring addressed the oil men. H. L. McQuiston, Phillips Petroleum Co., Oklahoma City, presided, and the assistant secretary was introduced by Gene A. Howe, Amarillo newspaper publisher. The vital role which oil plays in time of war was emphasized by Mr. Woodring, himself a Kansas oil man and banker before he was called to his present post.

"The outstanding achievements of the past few years in aviation can be credited to the co-operative advances made by the air corps and the petroleum industry in the production of improved fuels and oils," said Mr. Woodring. "It can be shown that, in the United States, aviation motors were increased in power at one time by 33⅓ per cent due to fuel and oil development alone. It undoubtedly is the most economical way to obtain appreciable increased airplane performance, but we cannot be content with past accomplishments.

"With the knowledge gleaned from the foreign press showing a marked appreciation of the importance of improved fuels and their necessity to those nations, may I impress upon you as representatives of the petroleum industry that every diligence must be exercised by yourselves and the war department to attain immediate and continued perfections in the production of aviation fuels and oils?"

"It is especially important to note that the war department is not contemplating taking actual possession of any productive establishment in the United States. Industrial activities must continue to operate under the management of their own trained personnel. To relieve these men of the direct responsibility for the operation of their plants in war would paralyze production and would be a blunder."

Fitts Pool Problems

K. R. Teis, of E. H. Moore, Inc., Ada, Okla., discussed "Drilling and Production Problems in the Development of the Fitts Pool." He outlined the essential phases of pressure drilling as carried out in completion of two wells in the Fitts Pool and declared the success of the method in these cases proved it entirely practical in that field.

"Preventing Loss of Circulation and Cement in the Fitts Pool, Okla.," was the subject of the closing paper prepared by C. P. Parsons, Halliburton Oil Well Cementing Co., and H. L. McQuiston, Phillips Petroleum Co. The results of experimental work were described and belief was expressed that this work, which is being continued in both the laboratory and the field, represented a forward step in eliminating the problems of lost circulation.

Advisory Council Chosen

The advisory council chosen for the ensuing year follows: C. O. Rison, chairman, Indian Territory Illuminating Oil Co., Oklahoma City; A. W. Ambrose, Empire Companies, Bartlesville, Okla.; J. J. Conry, Carter Oil Co., Tulsa; A. L. Derby, Derby Oil Co., Wichita, Kans.; C. P. Dimit, Phillips Petroleum Co., Bartlesville; Geo. A. Dye, Wilcox Oil & Gas Co., Tulsa; J. G. Dyer, Continental Oil Co., Ponca City; E. R. Filley, The Texas Co., Tulsa; E. J. Gorman, Twin State Oil Co., Tulsa; J. N. Hewgley, Slick-Urschell, Inc., Oklahoma City; J. E. Holm, Atlantic Oil Production Co., Tulsa; R. K. Huey, Deep Rock Oil Corp., Tulsa; Francis Jehle, Globe Oil & Refining Co., Wichita; J. C. Johnston, Continental Oil Co., Borger, Tex., (ex-officio member as Mid-Continent district chairman); H. L. Klein, Stanolind Oil & Gas Co., Tulsa.

A. W. Leonard, Devonian Oil Co., Tulsa; W. A. Martin, Sinclair-Prairie Oil Co., Tulsa; J. D. McNutt, Pure Oil Co., Tulsa; George L. Moody, Mid-Continent Petroleum Co., Tulsa; Lloyd Pickerell, T. C. Johnson Co., Wichita; F. M. Porter, Wirt Franklin Petroleum Co., Oklahoma City; R. B. Pringle, Tide Water Oil Co., Tulsa; W. G. Ricketts, Amerada Petroleum Corp., Tulsa; Ralph Roark, Shell Petroleum Corp., Tulsa; S. G. Sanderson, Gypsy Oil Co., Tulsa; E. D. Smith, Magnolia Petroleum Co., Oklahoma City; H. M. Stalcup, Skelly Oil Co., Tulsa; Myron Wagner, Mid-Kansas Oil & Gas Co., Tulsa.

Selection of the meeting place for 1936 was postponed until the midsummer meeting of the American Petroleum Institute, May 14-16 in Tulsa. Tulsa, Oklahoma City and Wichita are in the running.

Entertainment features included a barbecue Wednesday evening and a banquet and vaudeville show Thursday evening. The barbecue was held at Jack Hall's Ranch. Jay Taylor, head of the Panhandle Stockmen's Association, supervised details, and among memories of the Amarillo meeting carried home by 600 men and women who attended the barbecue was that of white-gloved caterers depositing double handfuls of superbly cooked beef on each guest's plate and urging each to "Help yourself" to the rest of an appetizing menu.

Revised Regulations Issued Concerning I.C.C. Pipe Line Valuation Survey

By HUGH D. MALLON
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Apr. 15.—Regulations governing the reports which the Interstate Commerce Commission is requesting in its pipe line valuation survey have been issued. They provide for filing of reports showing the field inventory of the property of all pipe lines subject to the Interstate Commerce Act. A major change from the proposed regulations issued recently for the consideration of the pipe line steering committee has been made. The present order, in relation to test pits for the determination of the condition of the pipe in the ground states "such test pits as are necessary to complete an adequate record of the physical condition of the buried pipes and fixtures shall be dug. The test pits should be dug at such intervals as required in order to reveal the condition of the line."

The tentative draft of the regulation previously sent out provided that "in determining the condition of buried line pipe, test pits shall be dug at uniform intervals not greater than 1 mile." This provision, if left unchanged, would have been an extremely expensive operation, conservative estimates of the cost running around $600,000.

The pipe line carriers requested they be relieved from the arbitrary requirement, claiming company records and observations of exposed pipe in various places, together with other data, would form a more satisfactory test. Under the new rule carriers will be given an opportunity to demonstrate physical condition of the pipe in these ways. However, should instances appear where such substitute methods do not form an "adequate record" test pits may be required, the number, spacing, etc., to be based upon the special circumstances in each individual case.

Instruction being issued by the Interstate Commerce Commission will describe how the property of the carriers shall be inventoried. Representatives of the Bureau of Valuation of the commission, shall supervise, review and check the inventory, and shall be empowered to sign the field notes taken in the inventory. In the event of a disagreement as to facts, the representatives of the bureau shall file with the field notes a statement of the exceptions taken.

As nearly as practicable property shall be classified in conformity with the classification set forth in the carrier property accounts contained in the uniform system of accounts for pipe lines prescribed by the commission as follows: Line pipe, line pipe fittings, pipe line construction, buildings, boilers, pumping equipment, machine tools and machinery, other station equipment, oil tanks, delivery facilities, communication system, office furniture and equipment, vehicles and other work equipment, and other property.

The inventory must be made separately for each of the following classifications: (1) Wholly owned and used, (2) jointly owned and used, (3) wholly owned, but not used, (4) wholly used but not owned, (5) property owned, but not used for carrier purposes.

In the case of property coming within the classification of either (2), (3) or (4), where the ownership and use of the same piece of property is involved, a definite understanding shall be reached between the interested parties as to which carrier shall be responsible for the field work.

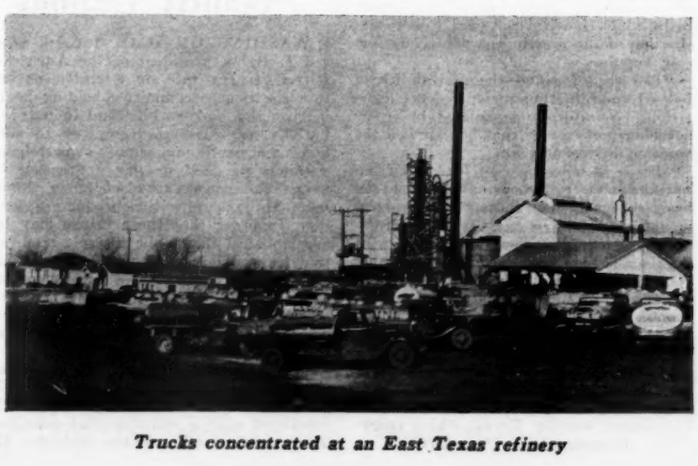
The inventory shall be prepared and the required data shown by what is known as "valuation sections." Valuation sections shall consist of particular portions of the property designated by termini. All such sections must be approved by the Bureau of Valuation, while trunk lines must be distinguished by the letter "T" and gathering lines by the letter "G," the appropriate letter to follow the valuation section number.

The condition of the property should be shown in the field notes in the following manner, the commission states:

1. Age. State the year of construction, installation or purchase of the property, whether new, secondhand, or reconditioned. If secondhand, state, if possible, length of service elsewhere, noting the source of data.

2. Wear and decay. Record such notes as may be justified from observation. Such test pits as are necessary to complete an adequate record of the physical condition of the buried pipes and fixtures shall be dug. The test pits should be dug at such intervals as required to reveal the condition of the line. A 4-foot section shall be exposed and thoroughly cleaned. This section shall then be marked off in four 1-foot sections, and maximum pit depths measurements made and recorded for each 1-foot section. Additional record shall be kept of any suggested conditions having a bearing upon the physical condition of the pipe or upon its expected normal service life.

Records should be taken showing whether maintenance is normal, whether the standard of maintenance is such as to secure average service life. Notes should likewise be shown which tend to show conditions which shorten or lengthen service life of the pipe.



Trucks concentrated at an East Texas refinery

A. W. Peake Is Elected Chairman of Stanolind

CHICAGO, Apr. 15.—Edward G. Seubert, president of Standard Oil Co. (Indiana), has announced a new arrangement in connection with the management of

A. W. PEAKE

Standard Oil Co.'s subsidiary companies in the Mid-Continent area. These companies are the Stanolind Oil & Gas Co., Stanolind Pipe Line Co., and Stanolind Crude Oil Purchasing Co., whose headquarters are in Tulsa.

A. W. Peake, vice president in charge of production of Standard Oil Co., has been elected chairman of the boards of these three companies and in the future will spend the majority of his time in Tulsa on general supervision of these three companies. F. O. Prior, president of Stanolind Oil & Gas Co., and R. S. Ellison, president of Stanolind Crude Oil Purchasing Co., and Stanolind Pipe Line Co., will continue in their present positions as direct operating heads of their respective companies.

Clashing Opinions at Thomas Bill Hearings in Senate Committee

By ANDREW M. ROWLEY

WASHINGTON, D. C., Apr. 16.—Strong opposition to the Thomas bill for control of the petroleum industry is marshalled at the hearing on the measure started here today by the subcommittee of the Senate Committee on Mines and Mining. The weight of the opposition is such that were the Senate committee to be guided in its recommendations by the evidence presented at this hearing it is felt the measure would be turned down. But general opinion is the committee will report the bill favorably to the full committee and to the Senate and those in close touch with the situation expect the bill to be passed by the Senate.

As a result of the conference on oil legislation held by the President Saturday there is some feeling the Thomas bill might be enacted into law unless those opposed to federal control make known their views in vigorous fashion. While it is thought the conference probably was requested by Administrator Ickes, members of Congress inclined to the belief the administration wants an oil control bill enacted at this session, and might vote for the measure to keep within the administration's fold, but there are members particularly in the House, who resent this seeming pressure being brought to bear on them and the Thomas bill will have a rocky road to travel when it is introduced into the House, as it probably will be in the near future, possibly by Wesley Disney, congressman from Oklahoma.

Opposition in House

Considerable opposition to federal legislation of the type of the Thomas bill is expected to develop in the House when and if such a measure is introduced. Congressman Sam Rayburn, chairman of the Interstate and Foreign Commerce Committee of the House, is said to be opposed to federal control of the oil industry, and William P. Cole, chairman of the subcommittee which investigated the industry, is said to be opposed to federal control of the oil business. Congressman Cole, according to those who have discussed the matter with him, feels it advisable, possibly, for the federal Government to submit recommendations to the states as to production allocations for the states, as is being done now, but he doubts the advisability or necessity at this time of making such allocations mandatory on any state. It seems to be his position if such recommendations are made and the states do not follow them fairly closely, then there is time enough to consider enacting legislation making such allocations mandatory. He seems to wish to give the interstate compact a chance to show what it can do. There is also considerable opposition to giving any agency such as the Petroleum Administrative Board power and authority to tell the states how much crude oil they can produce. Some congressmen are violently opposed to young men just out of college posing as expert advisors in the matter of petroleum and as being in a position to tell experienced oil men just what should be done.

The oil-producing states are well represented here in opposition to the Thomas bill. Gov. James V. Allred of Texas and Gov. Clyde Tingley of New Mexico are listed among those who will voice opposition to the measure. Others who will speak against the measure at the hearing tomorrow before the Senate committee include Axtell J. Byles, president of the American Petroleum Institute; State Senator Robert L. Patterson of California; C. C. Brown, personal representative of Gov. E. W. Marland of Oklahoma; Attorney General McCraw of Texas, and Col. Ernest O. Thompson, chairman of the Railroad Commission of Texas.

Proponents of the measure heard today included Secretary Ickes, Amos L. Beaty, counsel of the Phillips Petroleum Co.; Russell B. Brown, counsel for the Independent Petroleum Association of America; Harold B. Fell, vice president of that association; Wirt Franklin, president of the association, and J. D. Battle, executive manager of the National Coal Association.

Mr. Ickes read a prepared statement to the committee and stated later he may desire to submit one or two amendments to the bill, these relating to administrative features of the measure and to a provision providing for federal control of the bringing in of new pools and the drilling of new wells.

Judge Beaty's View

Judge Beaty, appearing in behalf of the bill, took a position entirely opposite that of Secretary Ickes in regard to the constitutionality of the federal Government's regulating crude oil production within a state. Secretary Ickes had stated court decisions and his own legal advisors made him feel such control of production by the federal Government is constitutional and does not infringe on state's rights. Mr. Beaty is of the opinion the federal Government does not have any power or authority to control crude oil production within a state.

Judge Beaty said his version of the production control feature of the Thomas bill is that any producer can produce as much crude as he desires from any well but, if the quantity of production is in excess of the quantity allocated by the federal board, the producer then must store that crude and cannot ship it to any point. He admitted on questioning by Senator Tom Connally of Texas that this provision and interpretation would destroy any semblance of state control over intrastate commerce. Judge Beaty

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Administrator Ickes Insists That Federal Control of Oil Industry Is Necessary

WASHINGTON, D. C., Apr. 16.—Secretary Ickes in his statement before the Senate Committee on the Thomas bill said in part:

"There are, when all is said and done, but two fundamental questions:

"1. Is such legislation within the federal power, and

"2. Is it desirable?

"Regardless of controversy which from time to time arises within the industry itself, from various motives and regardless of some controversy arising, also from various motives, as to the proper spheres of action of the states and of the nation, this huge and vital industry, dealing with a limited and invaluable natural resource indispensable to the nation's daily life and protection, needs the impartial and technically trained assistance of the Government in the balancing of current supply with demand. It also needs protection against recurring industrial upheavals, involving terrific loss and suffering caused by the absence of what Judge McCormick calls, "The Methodizing of Production." Moreover, there is a duty which transcends the particular industrial phase of the matter, and that relates to the need to prevent the waste of this resource and to protect the consuming public from the higher costs which inevitably would follow dissipation of the present comparatively low cost supplies.

"The need for and the desirability of federal co-ordination under federal legislation, is uniformly supported by every governmental agency that has studied the question in recent years.

"There is no reason to leave this important matter to be handled on the basis of emergency codes. The problem is not a temporary one. It is a permanent problem and should be dealt with on that basis. Each year the need becomes more acute, whereas codes were designed to function only during the present emergency. Conservation, the national defense, the protection of commerce in petroleum, the peculiar nature of the industry, dependent as it is upon pools of varying characteristics, are continuous problems which each day aggravates. The states, notably Texas, which recog-

(Continued on Page 25)

President Byles Presents Strong Protest Against Thomas Federal Control Bill

WASHINGTON, D. C., Apr. 16.—Axtell J. Byles, president of the American Petroleum Institute, in a statement before the Senate committee holding hearings on the Thomas bill, said in part:

"The public interest requires an adequate and continuous supply of petroleum products of good quality at reasonable prices and conservation of crude petroleum through efficient production and use. In order that these things may be accomplished the public interest requires that reasonable wages be paid and reasonable profits earned. The fulfillment of these obligations requires that management of the business be not deprived of essential and instant freedom of action, initiative and flexibility of operations.

"There have been 13 federal investigations of the business during the past 15 years. The investigation of 1922-1923 concluded with a warning that gasoline, before long, would cost the consumer $1 a gallon. Those years have passed and have witnessed a steady decline in the price of gasoline until now the consumer is paying less than one-half as much per gallon as he was then paying.

"From time to time, as a result of these inquiries and investigations, it has been predicted that within periods of from 10 to 12 years the Nation's petroleum supply would be exhausted. Notwithstanding the petroleum used since these predictions were made, we have larger proven reserves today than at any time in the Nation's history.

"The question, 'What's wrong with the oil business?' has been asked so frequently, many have become convinced that something is radically wrong. One has only to ask, 'What service has been demanded of the petroleum industry by the general public that has not been forthcoming and even anticipated?' to discover that the answer is 'None'."

Pennsylvania Operators Combing Region for Prospective Reserves

By R. C. CONINE

OIL CITY, Pa., Apr. 15.—The total known underground reserves of Pennsylvania Grade crude oil were estimated recently[1] at 5,500,000,000 bbls. Less than 20 per cent of this total is expected to be recovered by present production methods, including water drive, air and/or gas repressuring, mechanical lift, and lift plus vacuum. More general study and application of secondary recovery methods particularly suited to each of the 400 odd oil pools and more than 60 different producing formations will increase considerably the figure for "available oil reserves." In the 40 years that effect of water flooding on oil production has been known, and the 20 years that air and gas have been used to move oil to vent wells, the methods of providing a substitute for rock pressure and "live" oil have reached a stage of high efficiency, comparatively speaking. Strangely enough, the success of the secondary recovery developments in the Allegany, Bradford, Grand Valley, Oil City, Pleasant (West Virginia), Midway-Sunset (California), and Cook (Texas) Fields has proved of little or no inspiration to stripper well operators elsewhere in the region or in the west.

Seeking Additional Acreage

A number of progressive operators, including several who have carried on intensive water flood developments, are visualizing the end, some years hence, of their present recoverable reserves. These men are combing the region for promising properties. The procedure, naturally, involves first a coring of the prospective acreage under option. The price for promising production may be about $3,000 per barrel daily production, or outright purchase at $200 or so an acre, with or without eighth royalty, as circumstances may dictate. This is for Venango, Crawford and possibly Forest County farms. Moving southwestward, the consideration of higher initial production is offset by higher drilling and producing costs.

These prospects for greatly increased activity in the fields below Bradford are somewhat dimmed by the human factor, which is interposing more and more with demands for cash bonuses, etc., before core test may be made. Certain property owners, apparently, visualize a hidden Bradford Field under the sands which have been producing for more than 40 years, when some one proposes a deal. This attitude, coupled with the fact that cores have been taken only on properties with unpromising histories in this exploration program, appears to be forcing prospective buyers to seek farther south and west in the region. If these conditions continue to arise in other counties of the grade crude oil area, it is certain that Mid-Continent stripper well fields will be investigated.

This hypothetical exodus of secondary recovery experts does not carry an inference that methods of increasing production and lowering costs will be lost to the so-called broken sand districts. The loss will be one of financial backing, and, to a certain extent, the valuable experience and ability of specialized production engineers. In the earlier days of repressuring in Warren, Venango and Crawford Counties, it was an easy matter to borrow sufficient funds at the bank. Bankers have learned since then that successful development of a secondary recovery project requires considerable knowledge as well as money. The things that an operator must know and demonstrate before he can interest a lender of funds have been outlined by Kenneth B. Barnes of the school of mineral industries, Pennsylvania State College.

"A study of a given lease as to its suitability for the application of a repressuring or other production methods should consider and account for as many of the fundamental factors involved as possible," says Mr. Barnes. He then lists the characteristic factors influencing the production of crude oil as follows:

A. Uncontrollable factors: (1) Depth to and thickness of reservoir; (2) static gas-oil ratio; (3) bedding and lenticularity; (4) extent and character of fractures and fissures; (5) porosity and pore spaces; (6) permeability; (7) grain size, shape and arrangement; (8) presence and character of bottom and edge water; (9) structure; (10) physiography at the time of deposition of reservoir formation; (11) chemical composition of formation; (12) character and extent of cementation; (13) reservoir temperature.

B. Partially controllable factors: (1) gas pressure; (2) hydrostatic pressure; (3) viscosity; (4) capillarity; (5) adhesion; (6) surface tension; (7) dissolved and occluded gases; (8) pressure drop; (9) gas-oil ratio (flow); (10) temperature (flow); (11) specific gravity.

In initiating the plan of development, the following procedure is suggested by Mr. Barnes: A lease map should first be made, including property lines, pumping wells, wells shut down or in disrepair but which can be cleaned out, abandoned wells (each well numbered and classified), powers and pull lines, oil lead lines to well or stock tanks and oil lines to lease or gauge tanks, all gas lines. The records of all wells should be assembled for study, this work to be in several parts: (1) Equipment, surface and subsurface condition of hole; (2) sand thickness to be shown by contours connecting points of equal sand thickness and noting areas of greater or less productivity as known; (3) production records as it is usually desirable to repressure the best wells first. However, it is possible that other wells of lesser productivity penetrate sands of higher oil content but in which the oil is retained more firmly. Such a situation, Mr. Barnes points out, can be determined by coring and core sample analysis.

The fact is that it is impossible to go very far with air-gas repressuring without the information supplied by the core drill in the intake wells. A sand tester used in determining the pressures which will be required to inject a desired volume of air-gas in the different oil-bearing strata was described in the September 25, 1934, issue of The Oil and Gas Journal, page 11. The core samples enable the operator to estimate fairly closely the percentage of oil saturation in the sands worked, and indicate roughly the recovery which may be expected.

Air, Gas or Water?

Although water flooding is proving successful in fields southwest of Bradford, and has even shown good results in a Third Venango sand lease development, it is still generally accepted in the so-called broken sand areas that water drive is suited to the Bradford and Richburg sands alone. L. S. Panyity notes that a Venango sand of 17 to 26 per cent porosity indicated conditions were unfavorable for water flooding, but that an experimental five-spot was drilled because of the uniformity of the sand grain size, and it was found that the water was taken at the normal rate under a small added pressure with oil production increasing steadily.

M. B. McClintock indicates that a "perfectly uniform" sand body is not the first essential for successful water flooding when he says: "Although the Bradford sand is considered one of the most uniform sand bodies yet found, there are great variations over the entire body of this field. Porosities range from 6 per cent to 25 per cent, saturation from 28 per cent to 85 per cent, sand thickness from 20 feet to 90 feet, and about 30 per cent of the sand formation is made up of shale. Total oil content by core analysis ranges from 8,000 bbls. to 30,000 bbls. per acre, the average being 10,000 bbls. Forty per cent of this oil is recovered by present water flood methods, compared with a recovery of 20 per cent for air and/or gas repressuring and a possible recovery of 70 per cent to 80 per cent by mining.

Gas Versus Air

A question most frequently asked pertains to the relative merits of air and gas in repressuring. The answer has been given by a number of investigators. J. O. Lewis says that air is better where the sand is highly saturated, and that gas is better when pressure control is used to keep it in solution as it reduces viscosity and surface tension. He points out that while it takes a long time to get gas into solution in oil contained in a vessel, without agitation, gas goes into solution readily when the oil is contained in the pore spaces of a sand. W. F. Cloud found that "apparently the oils of higher gravity and lower viscosity flow faster when saturated with gas, provided adequate back pressures are used. The more viscous oils seem to flow faster when saturated with air." He says that "gas and air bubbles in saturated crude oil cause least resistance to flow when high back pressures are used and are released slowly to pressure below the input pressure. Applying high back pressure after gas saturated or air saturated crude has been subjected to open flow will not obtain the same rate of flow as would be possible by gradually opening the discharge valve to high back pressure, permitting the gas to come out of solution slowly, thus controlling the size of the air or gas bubbles between the sand grains. Bubbles when once formed are difficult to reduce in size enough to re-establish the initial rate of flow as obtained at higher back pressures."

Water Versus Gas

The relative merits of water drive and gas repressuring have been set down by C. S. Corbett as follows:

Advantages of Water Drive—(1) Avoidance of the gas-solution effects which may develop unfavorable channelling, etc., conditions. (2) Lower pump pressures required, since the hydrostatic pressure in the input wells would supply a considerable portion of the total pressure needed for recovering the oil. (3) Opportunity to use and market the gas from the field currently with the operation of the lease.

Advantages of Gas Drive—(1) Less friction of movement of gas through sand than of water. (2) Saving of much of the pressure of the gas coming out of solution in the crude by double trapping, the gas from the higher pressure trap being taken to high stage compressors for return to the sand. (3) Smooth-

(Continued on Page 40)

[1]Report of leading Pennsylvania region geologists to Cole oil investigation group.

Bradford Pennsylvania Crude Producers Association Holds Annual Session

BRADFORD, Pa., Apr. 13.—A plea for curtailment of crude oil production in the Bradford Field to meet the market demand was made by D. T. Andrus, local oil producer, at the annual meeting of the Bradford District Pennsylvania Oil Producers Association, attended by 125 members in the Emery Hotel.

Building a market for oil was discussed by Neil Sullivan of Bolivar, secretary of the New York State Oil Producers Association. Mr. Sullivan, who is also secretary of the Allegany Refineries at Bolivar, said the producer must interest himself in the problems of crude disposal as well as in the more immediate and personal matter of crude production. The solution, he believed, lies in producer co-operation with refiners and marketers.

Dr. A. W. Gauger, director of mineral industries research at Pennsylvania State College, stressed the object of all producers as securing maximum recovery at minimum cost. Research plays a valuable role. In the tests of flooding operations conducted in the laboratories at the college, he said, less than one-fifth of the oil in the sand is recovered by water flood, while a lower proportion is obtained in the field. Experiments with flood solutions, he explained, have shown a 15 to 20 per cent better yield.

Dr. Samuel Yuster of the research staff at the college, demonstrated the operation of a flood by a microscopic slide projection on a screen. A synthetic capillary made of pyrex glass was used to illustrate the comparative yield from water flood and solution flood. The solution flood, it was shown, was more efficient and left a more uniform condition in the sand after the flood had passed.

Dr. W. J. Fredericks, who acted as toastmaster at the dinner, drew an analogy between the early days of the oil excitement and the present in their common need for concerted action on the part of oil producers to promote the general good.

The new directors of the Bradford District Pennsylvania Oil Producers Association follow: D. T. Andrus, H. G. Barcroft, A. E. Booth, George Bovaird, Jr., E. H. Bryner, Paul W. Burdick, D. W. Daly, M. L. Dana, W. N. Davis, Robert Digel, F. D. Dorn, E. C. Emery, Hugh Grant, Jr., W. F. Grow, R. M. Haskell, William J. Healey, Robert E. Hungiville, F. Harold Johnston, Frank Lawrence, R. C. Lloyd, Tom D. Mallory, Myron W. Matson, Parker L. Melvin, John Messer, W. B. Miller, Roy Oakes, Wilson K. Page, Cornell Pfohl, Jr., R. S. Pringle, Jr., George L. Rhodes, Harry M. Ryder, A. Schorman, G. A. Simpson, William J. Sloan, Lynn G. Smith, C. F. Stevenson, C. E. Streeter, D. B. Tanner, T. P. Thompson, Jr., Blaine Walker, H. J. Walter, C. L. Wann, G. B. Wood and Archie L. Yerdon.

Quarter Billion Dollar Export Oil Market Can Be Expanded

By C. O. WILLSON

The recent announcement of the Bureau of Foreign and Domestic Commerce that crude oil producers and refiners in United States last year sold over 100,000,000 bbls. of their products to foreign buyers for which they received $227,500,000 has served to emphasize the importance of export markets to the oil business of this country and renew discussions as to the probable future of these outlets. The government data show that in value of exports for 1934, the petroleum industry was second among all classes of products, being exceeded only by unmanufactured cotton. It is also worthy of note that the 1934 totals represent increases both in volume and value over the previous year, ending a period of declining exports which started in 1931.

One of the unusual features of this quarter-billion dollar export market for petroleum products is that it was obtained without any aid from the Government and despite many unfavorable situations in foreign markets. The Department of Commerce and other governmental agencies have sponsored various plans looking to the maintenance or expansion of foreign markets for agricultural and many manufactured products but little or no attention has been paid to petroleum products.

Reciprocal Trade Agreements

An angle to this situation which has been amazing to representatives of other industries and producers of raw materials is the fact that the oil industry has had no direct representation at the hearings that have been held over the past year at Washington in connection with the reciprocal trade agreements which are being worked out with other countries for the purpose of expanding market outlets. Several of these industries have been represented in the hearings as have the producers of basic commodities either through their own organizations or governmental agencies or both.

The general purpose of these reciprocal agreements is to establish conditions which will facilitate trading between United States and each foreign country which is an actual or potential buyer of American products. As these trade agreements with individual countries progress it has been found that the issues have become highly involved in some cases so that months or years may be required to establish trade relationships which are mutually satisfactory. Others have been completed or will be in the near future. The agreements depends primarily on a balancing of imports and exports to establish a satisfactory trade balance for the two countries concerned in each agreement. This in turn may involve trade relationships with other foreign countries, including changes in tariffs and internal taxes. In this general shuffling around anything may happen and certain industries and producers of raw materials in this country may see their export outlets contracted rather than expanded, and may even see their domestic operations disturbed through changes in tariffs on imports.

The fear of these unfavorable developments as well as the possibilities of trade expansion has caused some industries to give attention to the individual trade agreements as they have come up for consideration. Some industries will unquestionably strengthen their foreign marketing position. The changes in duties for automotive products in the Belgian agreement is a case in point.

The automotive industry has taken an aggressive position in these trade agreements and are getting the recognition to which they are entitled. Its representatives have pointed out to the government officials in this country the desirability of enlarging the foreign demand for raw materials in this country and the certainty of increasing employment, with satisfactory wage scales.

The situation of the petroleum and automotive industries in this country are somewhat analogous and interdependent. Both occupy strong competitive positions due to large scale production which has brought low costs and superior products. Both have suffered in foreign sales due to high and in many cases discriminatory import duties and taxes. The automotive people are making progress in correcting this situation through co-operative effort while the oil business in this country, minus any collective program, have been content to take what was left, after an international juggling of supplies and outlets.

The automotive people as a by-product of these trade agreements have stressed to the individual countries that are desirous of expanding industrially the desirability of reducing costs to the users of automotive vehicles, pointing to the part that the manufacture of motor vehicles has had in the expansion of this country over the past quarter century. These automotive units in foreign countries cost two or more times prices in this country, due largely to import duties and special taxes. Although not directly their affair, the automobile representatives have also pointed out the necessity of reducing taxes on motor fuels which retail at 30 to 80 cents per gallon if the use of cars is to expand in their countries. The foregoing indicate the angles that are developing as trade agreements are discussed and the shifting international situations are analyzed.

Oil Export Situation

The Government's report on oil exports for 1934, which are summarized in the accompanying table as to leading countries with comparative data for 1933, reflects a situation in foreign markets which is more favorable to domestic producers and refiners of crude oil than was thought possible a year or two ago, and competent observers have said that with the necessary collective action most of the markets lost over the past few years would be regained and new outlets obtained.

There are some who profess to believe that petroleum export outlets will continue to decrease with the additional observation that nothing can be done about it. They point to the supposedly lower costs of crude oil production in certain foreign countries and the expansion of foreign refining facilities which has been tied in with the actions of certain countries in developing a refining industry with sufficient capacity to supply domestic requirements and provide for national defense. The import taxes which were made effective in this country in the summer of 1932 and which have greatly decreased the volume of imports have also been stressed as a factor which has tended to expand foreign refining operations and decrease purchases from plants in this country. More recently these observers have emphasized the significance of the new supply of crude oil made available by the completion of the Iraq pipe line at two terminals in the Mediterranean coupled with increased production in other foreign countries.

It would be useless to ignore the significance of these developments in the light of what has happened over the past three or four years. Refiners have lost over 60 per cent of their export gasoline business with smaller losses in other products. The bulk of the gasoline business has gone to foreign refineries operating with South American crude oil whose owners previous to 1932 imported crude oil into this country and exported large quantities of gasoline. Some of these plants have been built—notably France—because of new laws which practically forced companies to build local refineries if they were to continue to hold domestic distribution in certain countries. So far as Iraq is concerned around 50,000 bbls. daily is now being available to world markets and within another three months the deliveries presumably will approximate the present capacity of the pipe line, which is 85,000 bbls. daily.

To these competitive factors can be added the increased production over the past year of practically every producing country of any importance. There is the additional fact that more countries are planning on establishing or expanding refining industries and developing crude oil resources within their own boundaries or contiguous areas wherever possible.

Favorable Factors

Giving due credit to all these developments it does not appear that they mean the end of American participation in foreign markets. The increase in business in 1934 is evidence of that fact. Probably the greatest asset of the industry in United States is maintaining its position in foreign markets lies in the variety of its crude oil supplies and the efficiency of its refining operations including the quality of its finished products. Conceding the lower costs of certain foreign supplies in the production of crude oil, this advantage is entirely offset in some cases through the lower manufacturing and sales costs of the larger refining units located on the East and West Coasts of the United States. Several companies have had this situation forcefully brought to their attention over the past two years.

It is no secret that several of these recent refinery construction ventures in foreign countries have not been as attractive as hoped for and this fact may deter future expansion. Forced to use foreign equipment and supplies in the building of these plants, the capital expenditures usually have been much larger than would have been necessary in this country to secure the same plant capacity. Some of the equipment has proved inferior and has had to be replaced. In most cases the refinery operators are required to use local labor in both construction and operation and this has proved costly.

(Continued on Page 40)

PRINCIPAL BUYERS

The accompanying table lists the 10 principal buyers of petroleum by countries. The buyers grouped under "other countries" includes a long list of smaller countries some of which buy practically all their petroleum products from refiners in this country.

The four principal buyers and the quantities of crude oil and petroleum products purchased in 1934 are as follows (data in barrels): Canada, 25,454,743; United Kingdom, 21,508,960; Japan, 16,317,429; France, 13,171,883.

Principal Foreign Buyers

Table showing export purchases in United States of crude oil and refinery products of first 10 countries and totals for all countries for 1934 and 1933 (data in barrels):

Countries—	1934	1933
Canada	21,957,530	19,500,960
France	10,204,140	9,143,220
Japan	6,693,211	5,532,965
Argentina	769,267	.....
Italy	445,536	43,144
Germany	379,648	676,470
Canary Islands	156,299	572,737
Mexico	106,671	94,810
Belgium	102,381	281,156
Total first 10 months	40,814,625	35,845,462
Other countries	307,610	738,462
Grand total	41,122,233	36,584,138
Total value	$49,751,000	$31,979,000

GASOLINE

United Kingdom	4,531,706	6,015,365
Australia	2,141,375	2,589,808
Canada	1,735,493	1,599,392
France	1,616,447	5,077,920
Netherland W. Indies	1,496,615	1,695,911
Belgium	1,480,285	1,388,062
Japan	1,078,970	1,030,753
Brazil	1,041,309	779,209
Spain	899,436	724,256
Netherlands	812,550	607,792
Total first 10 months	16,833,186	21,508,468
Other countries	6,354,787	6,144,612
Grand total	23,187,973	27,653,080
Total value	$54,113,000	$60,685,000

KEROSENE

United Kingdom	2,200,438	2,113,884
China	1,321,525	1,365,295
Netherlands	941,525	798,544
Netherland W. Indies	815,449	132,930
Brazil	501,863	432,627
Philippine Islands	420,492	435,049
Japan	374,339	264,965
Sweden	361,423	249,390
Australia	345,648	466,201
Hong Kong	329,172	208,433
Total first 10 months	7,611,874	6,467,318
Other countries	2,985,142	2,296,312
Grand total	9,597,016	8,763,630
Total value	$20,792,000	$19,209,000

LUBRICATING OILS

United Kingdom	1,705,409	1,920,777
Germany	938,496	906,564
France	809,074	1,146,724
Belgium	585,646	679,577
British India	363,138	411,726
Italy	331,304	360,106
Canada	311,872	290,280
Australia	285,070	357,202
Japan	253,692	162,134
Netherlands	253,500	246,374
Total first 10 months	5,828,201	6,481,464
Other countries	1,679,238	1,629,568
Grand total	7,507,439	8,111,032
Total value	$58,234,000	$55,389,000

GAS OIL AND DISTILLATE

Japan	3,502,024	3,068,617
United Kingdom	1,881,224	1,222,571
Netherland W. Indies	1,113,622	602,206
Panama	1,086,389	608,489
Netherlands	808,290	1,050,278
Germany	702,959	629,528
Canada	605,076	272,302
France	463,078	341,970
Italy	422,087	387,298
Belgium	372,969	207,331
Total first 10 months	10,957,718	8,370,590
Other countries	2,416,718	1,861,267
Grand total	13,374,631	10,231,857
Total value*	$28,193,000	$18,310,000

RESIDUAL FUEL OILS

Japan	4,415,193	2,112,603
Chile	1,207,266	1,181,923
Panama	956,910	656,718
Mexico	938,841	516,752
New Zealand	937,503	756,917
Philippines	798,063	645,720
Canada	783,716	989,511
Cuba	643,265	171,563
Spain	449,887	190,608
Uruguay	366,969	.....
Total first 10 months	11,497,613	7,222,310
Other countries	992,074	1,000,978
Grand total	12,489,687	8,223,288

*Includes residual fuel oils.

VALUE—OTHER PRODUCTS

Lubricating greases	$3,651,000	$2,954,000
Paraffin wax	7,533,000	6,979,000
Petroleum asphalt	3,331,000	2,861,000
Benzol	1,761,000	1,594,000

Sunray Installs Simple and Automatic Vapor Recovery Unit at Allen

By W. T. ZIEGENHAIN

A simple and completely automatic vapor recovery plant has been added to the Sunray Oil Co.'s refinery at Allen, Okla., to augment the operation of the new 2,000-bbl. Dubbs cracking unit. Since installing the absorption equipment an average of 22 bbls. of gasoline have been added to the daily production of motor fuel and justifies the assumption that the unit may be written off within the first 10 months of operation, even though gasoline prices remain at the present low levels.

This favorable showing is due in part however, to the fact it was reclaimed from an idle refinery in Kansas and although the equipment is practically new, required less than the normal investment in such a unit.

It was originally located at Chanute, Kans., and operated for about two months in the latter half of 1934 and then the entire refinery was closed down and dismantled. Comparatively little revamping was necessary to adapt the original vapor recovery system to the operation of the Dubbs cracking plant at Allen, the total expenditure for moving and new equipment falling under $10,000. The feature of the plant is its automatic operation. This is carried out to the point where no additional labor is required, even the make-up oil being semi-automatically supplied from a small charge tank.

Operation of Plant

The system is supplied with gas from the Dubbs unit and the data at hand were secured while the cracking plant ran an average of 1,900 bbls. of 24.2 gravity topped crude daily to produce 10.5 gravity fuel oil. The average volume of raw gas coming to the unit was 442,500 feet daily and the average recovery of unstabilized gasoline was 22 bbls. per day. This gasoline has had an end point of about 360°F., a Reid vapor pressure of 35 pounds and 91.9 gravity. Within the near future the company expects to add a stabilizer unit to make the system complete.

In most respects the plant follows the conventional operation of an absorption type natural gasoline plant, the gas coming from the Dubbs unit under pressure of 35 to 40 pounds and enters the system through a scrubber. It then enters an absorber of conventional design, the absorbing medium being a 40° gravity oil having an initial of 350° F., the charging rate of the lean oil and the withdrawal of the enriched oil being automatically regulated.

The absorption is carried out at a pressure of about 35 pounds per square inch. The enriched oil leaves the absorber at the rate of about 25 to 30 gallons per minute and is pumped into a conventional fractionating tower after picking up heat while passing through a lean oil heat exchanger and steam heated preheater. The incoming enriched oil is at a temperature of about 340° F. The lean oil leaving the fractionator is at a temperature of about 304° F. Live steam is also injected into the tower at the bottom to supply the major share of the energy needed to effect separation of the light fractions from the absorption oil. The tower is controlled by pumping back a portion of the condensed over-head, this operation also being automatically carried out in conventional manner.

The fractionator operates under a pressure of about 40 pounds, the rich oil pump shown in the accompanying flow chart, overcoming the pressure differential between the absorber and the fractionator.

The unstabilized 91.9 gravity gasoline leaves the system under a tank pressure of 40 pounds and is blended with the refinery gasoline production to hold subsequent evaporation losses to a minimum. After the stabilizing tower is installed, this portion of the routine will of course be modified and additional flexibility will be afforded in the operation of the plant.

The stripped absorption oil is under sufficient pressure in the base of the fractionator that it flows back into the lean oil tank without being pumped. It leaves the fractionator at a temperature of about 304° F. and gives up a portion of its heat to the incoming rich oil as the two pass through a tubular exchanger. The lean oil leaves this exchanger at about 151° F. and is further cooled with water as it passes through another exchanger.

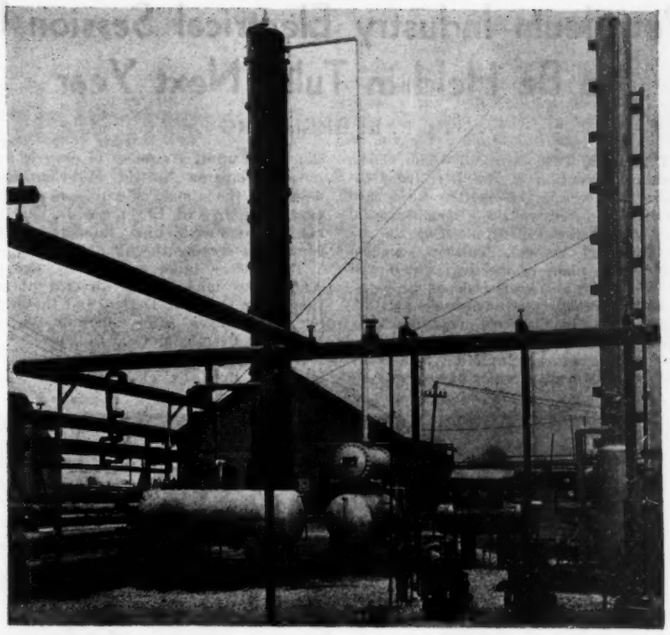
The lean oil make tank is located in this portion of the system and supplies about 1,000 gallons of fresh oil to the system per month. This is done by cracking the outlet valve a pre-determined amount and with normal operating conditions the setting need not be changed over long periods. Pressure is supplied to the lean tank by means of a small gas line off the recycle gas system.

Recycled Gas

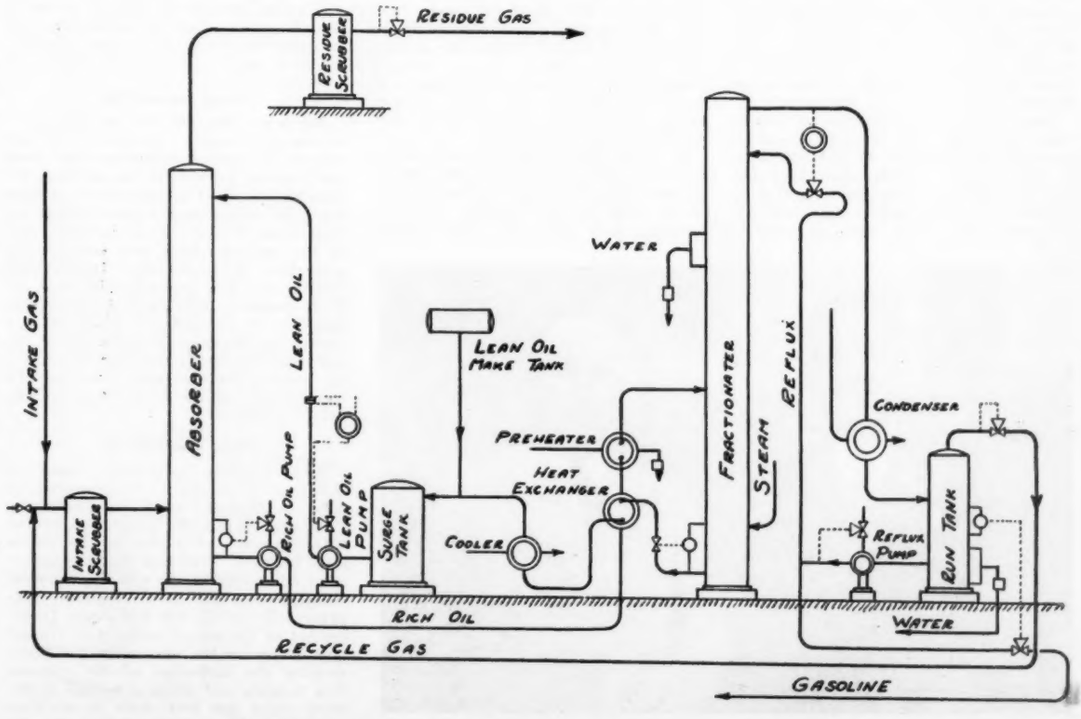
Those fractions which were absorbed in the oil in the absorption tower but which passed through the final condenser without liquifying are taken off the gasoline run down tank and are taken back to the raw gas intake line to be reprocessed through the system again. The quantity of gas recycled approximates 15 cubic feet per gallon of gasoline made or in one day will approximate 15,000 feet.

The crude processed through the refinery comes from the local fields and is exceptionally free of sulphurous and other corrosive compounds so that there was no need for special provisions either with respect to cracking operations or in the vapor recovery plant for combating metal losses by corrosion.

The design and construction of the original unit and the revamping of the equipment for adapting it for installation at the Sunray plant was done by Petroleum Engineering, Inc., affiliated with the Arthur G. McKee & Co.



General view of Sunray Oil Co.'s new 1,000-gallon vapor recovery system installed at its Allen, Okla. refinery



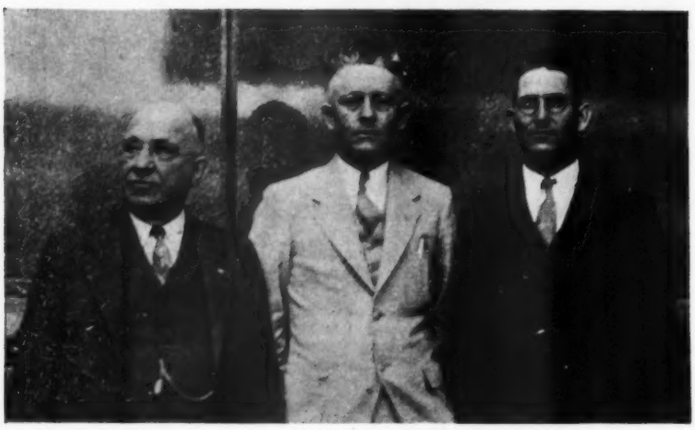
Simplified flow chart showing processing of Dubbs still gases to recover approximately 22 barrels of 35 pound vapor pressure gasoline daily

Petroleum Industry Electrical Session Is to Be Held in Tulsa Next Year

By L. E. BREDBERG

DALLAS, Tex., Apr. 13.—The eighth annual convention of the Petroleum Industry Electrical Association adjourned here today after what the members said was the most successful meeting the association has yet held. Tulsa was named next year's place of meeting, which will be held about the same time.

At the Friday morning session, J. W. Flint, with the Empire Companies, Bartlesville, Okla., was named president. F. P. O'Connor of the Stanolind Pipe Line Co., Tulsa., was elected vice president and H. E. Browne of the Sinclair Prairie Pipe Line Co., Independence, Kans., was re-elected secretary-treasurer. Mr. Browne has been re-elected to this position ever since the association was organized in Fort Worth in 1928. Morris Chambers, with the Standard Pipe Line Co., Shreveport, La., the retiring president, was named to the board of directors, succeeding Grover Reed of the Lone Star Gas Co., Bowie, Tex. Mr. Flint, the president, is chairman of the board. Other members of the board of directors are: F. S. Leonard, Shell Petroleum Corp., St. Louis; P. F. Davis, Texas Pipe Line Co., Tulsa; A. J. Balcom, Magnolia Pipe Line Co., Dallas, and R. M. Bayless of Humble Pipe Line Co., Houston.



New officers of the Petroleum Industry Electrical Association. Left to right: H. E. Browne, Independence, Kans., reelected secretary-treasurer; J. W. Flint, Bartlesville, president; F. P. O'Connor, Tulsa, vice president

One of the most interesting papers presented during the three days session was one on electrolysis by S. U. McGary of the United Gas Co., Houston. Joe Elliott, with the Southwestern Gas & Electric Co., Shreveport, and chairman of the Electric Power Club, an association made up of a number of electric and power companies in the Mid-Continent, described the aims and purposes of that organization, and the place it held in conjunction with pipe line and other companies serving the oil and gas fields.

Two safety talks were given, one by A. W. Breeland, safety director of the Lone Star Gas Co., Dallas, and the other by Joe Risinger, safety director for the Magnolia Petroleum Co., Dallas.

A paper on repairing and reconditioning pipe lines by elecrtic arc welding while the lines continued in service, was read by Mr. Ricke of the Lincoln Welding Co., for E. H. Barrios, the author, who could not attend the meeting.

Hezzie Clark, with the Humble Pipe Line Co., Houston, made a talk on telephone transmission and L. E. Adler with the Magnolia Pipe Line Co., Dallas, gave a chalk talk on noises in lines, and how to clear them.

A paper was presented on treated southern yellow pine poles by a representative of the Fordyce-Crosset Sales Co., Fordyce, Ark., and Henry Taylor of the International Creosoting & Construction Co. made a talk on creosoted poles, using sections of old poles to prove his points on the value of creosoting poles, the penetration of the creosote and its lastinf qualities.

A. J. Bommer of the National Underwriters' Laboratories, Inc., talked on the National Electrical Code and recommended its study by the members of the association. This code deals with installations, insulations, services, and other pertinent matters connected with the electrical industry.

E. L. Kinderdine, chief electrical inspector of Fort Worth, Tex., gave a brief talk stressing maintenance with the manufacturing companies in cities was more or less of a hit and miss proposition. With pipe line companies this is known not to be true, these companies feeling it is more economical to maintain their systems in the best condition at all times. This is also necessary to prevent troubles occurring when lines and communications are absolutely necessary, as for instance when there is a break or leak in a line, when a washout might disrupt pipe lines, or other troubles cause a holdup in the regular flow of oil through the lines. At these times the telegraph and telephone departments of the pipe line companies are needed 100 per cent.

A banquet was held by the association on the evening of April 12, presided over by A. J. (Andy) Balcom, who was also chairman of the entertainment committee for the convention.

W. H. Stueve, Oklahoma Gas & Electric Co. and Joe Elliott, Southwestern Gas & Electric Co., Shreveport, La.

Solvent Refining Will Be Featured at Penn State Mineral Industries Meet

By ROBERT C. CONINE

STATE COLLEGE, Pa., Apr. 15.—A symposium on solvent extraction of lubricating oils will feature the fifth annual petroleum and natural gas conference of Pennsylvania State College here, April 26-27. The prominent part given to a refining process in a meeting of producers, it is pointed out, shows that operators are realizing that the business of maintaining the premium position of Pennsylvania grade lubricants is devolving more and more upon the refiners. The school of mineral industries of the college announces the program as follows:

During the year three refineries in Pennsylvania have adopted the Chlorex solvent process and a timely paper will be read by D. B. Williams, entitled "Application of the Chlorex Process to the Treatment of Lubricating Oils From Pennsylvania Crude." Mr. Williams graduated from Cornell University in 1924 with the degree of mechanical engineer and has been with the Carbide & Chemical Corp. since then. Chlorex is manufactured for use as a selective solvent by that corporation under an exclusive license agreement with Standard Oil Co. (Indiana), and Mid-Continent Petroleum Corp. The first part of the paper will include brief descriptions of the plants installed in Pennsylvania. The second section will cover typical results obtained with Clorex in treating Pennsylvania neutrals, bright stock and cylinder stock The last section will be devoted to a consideration of the costs of installing and operating Chlorex plants, including the advantages of solvent extraction, such as improvement in filter yields, breaking cylinder stock viscosity and disposal of extracts.

Sand Saturation

For some time, Dr. Earl S. Hill of the petroleum research laboratory of the school of mineral industries has been studying the problem of the accurate determination of oil saturation of oil sand cores. He will present a paper giving the limitations of the various methods now in use and describing new methods for saturation determinations. Doctor Hill received the M.S. degree in 1931 and the Ph.D. degree in 1934 from the California Institute of Technology. While at this institution, under project No. 37 of the American Petroleum Institute, he carried on research for four years studying the fundamentals of the retention of oil and gas in sands.

Fluid Measurement

A particularly appropriate paper at this time is the one to be presented by Allen D. MacLean, chief engineer of the Pittsburgh Equitable Meter Co., on the "Measurements of Fluids in the Petroleum Industry." The new fluids' measurement laboratory of the school of mineral industries has just been completed. This paper will include the following: Development of the use of orifice and venturi type meters for the measurement of flows showing the derivation of the common flow formula and giving a resume of the work which has been done to establish accurately the coefficients used for the measurement of oil, with curves showing these coefficients. Description of other type meters which are commonly used in measuring petroleum products from the well to final retailing. These include the nutating disc meter, the velocity meter, the confined impeller type meter and the piston type meter. The application of the orifice meter formula to natural gas is also made with a short resume on the derivation of the new coefficients for natural gas measurement. Mr. MacLean was graduated from Harvard University in 1917 with the degree of Bachelor of Science. After overseas service he was in 1920 assistant chief engineer, New Departure division, of General Motors Corp. Since 1926 he has been chief engineer of Pittsburgh Equitable Meter Co.

Deep Sand Production

The oil and gas possibilities of the deeper sands in northwestern Pennsylvania is another subject of general interest to the natural gas and petroleum industries of the state. S. H. Cathcart, senior geologist of the Pennsylvania Topographic and Geologic Society, and Dr. Charles R. Fettke, head of the geology department of Carnegie Institute of Technology, will present a joint paper on this topic. The paper will consist of a resume of the regional geology including subsurface deductions based upon deep well data determined by the study of well cuttings; reference to the surface structure of the region, in so far as known and its probable relation to the subsurface; and a discussion of the oil and gas possibilities of the Oriskany sandstone, the Newburg sand of the Lockport (Niagara) dolomite and the Medina sand. Mr. Cathcart received his B.S. degree in metallurgy in 1912 from Pennsylvania State College, and his M.S. degree in mining geology from the college in 1916. During the years 1917-1918 and 1919-1920 he was engaged in graduate work in geology at Yale University. During 1916-1917 he was employed by the Empire Gas & Fuel Co. He was connected with the U. S. Geological Survey from 1918 to 1925. He has been with the Pennsylvania survey since 1930. Doctor Fettke obtained his undergraduate training in mining engineering at the University of Washington. He received the degrees of M.S. and Ph.D. at Columbia University, where he was assistant to Prof. James F. Kemp, noted authority on ore deposits, for two years. Doctor Fettke has been making a detailed study of the Bradford oil field and the subsurface stratigraphy of the northern Appalachian oil and gas fields during the past 10 years for the Pennsylvania Topographic and Geologic Survey. He has also made extensive investigations on the recovery of oil by water flooding and air and gas drives.

Water Flooding

Water for flooding purposes has represented an acute quantitative problem for several years in Pennsylvania but not until recently has it become generally realized that quality is an equally important factor. Arthur Simmons of Torrey, Fralich & Simmons, will discuss this question in a paper entitled "Problems of Water Flood Supply." In this paper Mr.

(Continued on Page 46)

Drilling and Production Problems in Development of the Fitts Pool

By K. R. TEIS
E. H. Moore, Inc., Ada, Okla.*

The writer is somewhat hesitant in entering upon the treatment of a subject so broad as that indicated by the title. But for the fact that the Fitts Pool is now only in the early stages of development the subject would be incapable of treatment in the limited time allotted to this paper.

As practically all wells in the Fitts Field are being produced by natural flow, the problems of production are few and little space will be given to their consideration. Thus we are justified in confining the subject matter of this paper principally to the treatment of those problems which are encountered in the drilling operations in the field.

Subsequent to the preparation of a program for this meeting, E. H. Moore has been carrying on some very interesting work in the Fitts Pool, in the form of pressure drilling. The writer is quite sure that this work will be of much interest to you and with the permission of your program committee is taking the liberty of devoting a major portion of this paper to that subject. Before entering upon the discussion of pressure drilling, however, the writer will, out of respect for his title, cover briefly other phases of drilling and production operations.

The Fitts Pool is situated in southern Pontotoc County in the State of Oklahoma. The defined portion of the field has an area of approximately 3 square miles, the major portion of the field lying in Section 25, Township 2n, Range 6e, and Sections 29 and 30, Township 2n, Range 7e.

Discovery of Field

Discovery of the field dates back to the drilling of No. 1 Wirick by E. H. Moore. This well was completed in the Hunton lime in August, 1933. Since that time, more prolific sands have been discovered below the Hunton lime and the No. 1 Wirick remains as the only Hunton lime producer in the field. The producing wells in the field now total approximately 80 in number and have a daily tubing potential of some 280,000 bbls.

Production in the Fitts Pool is had from a section of lime and sands totaling over 500 feet in thickness. Casing strings are landed on top of the Viola lime and some 500 feet of open hole is drilled below the casing shoe. The formations penetrated below the casing shoe are the Viola lime and the Upper Simpson formations known as the Bromide series. The Bromide carries a dolomitic section in the upper portion which is oil bearing. The sands proper lie in the lower portion of the section and appear to be two distinct sands separated by shale and lime strata. The exact thickness of these sands is a matter of some doubt, it being quite probable that they vary considerably in thickness throughout the field. Wells in the field are bottomed in the McLish formation, which is dense white lime.

The average depth of wells in the Fitts Pool is 4,300 feet. Two casing strings are used, the surface string consisting of 500 to 600 feet of either 13⅜-inch 54½-pound or 12½-inch 50-pound Grade C seamless pipe. The oil string is in most cases 7-inch 24-pound seamless, set on the top of the Viola lime. The surface string is cemented with 500 to 600 sacks of cement and the oil string with about 2,000 sacks.

The State Corporation Commission requires all wells to be tubed with 2½-inch tubing. Length of tubing string must not be less than 200 feet shorter than the oil string.

Potential Tests

The first potential tests of the field were taken in January of this year. Proration of the field's production is based on tests taken at that time and on tests taken on new wells as completed. Potentials are determined by open flow through 2½-inch tubing during a period of six hours, the last four hours production being multiplied by six to arrive at the daily potential of the well. The field has been allowed 9,000 bbls. daily production during January, February and March. The daily allowable for the month of April will probably be fixed at 12,000 bbls. It is estimated that the well allowable for April will average about 150 bbls. per day, or about 4 per cent of the tubing potential, the average daily potential of wells in the field being 3,650 bbls.

The initial bottom hole pressure measurement of the field, made October 16, 1934, in the No. 1 Cradduck well of the Carter Oil Co., shows reservoir pressure of 1,901 pounds per square inch at 3,300 feet subsea.

Subsurface pressure measurements taken in January, 1935, on all producing wells in the field, averaged 1,776 pounds per square inch at 3,300 feet. Subsequent pressure measurements were made on 18 key wells in the field. Those taken February 11, 1935, averaged 1,717 pounds per square inch, while the March 2 pressures averaged 1,714 pounds per square inch, an average reservoir pressure drop of 3 pounds per square inch. Withdrawals during the period February 11 to March 2 approximate 182,000 bbls., indicating a reservoir pressure drop of 16.5 pounds per square inch per million barrels produced at the present rate of withdrawal.

The March 2 pressure measurements show a maximum bottom hole pressure differential, for the pool, of 425 pounds per square inch. Pressure declines were measured in 12 of the 18 key wells, while six wells showed increases in pressure during the period from February 11 to March 2.

Bottom hole pressure measurements, taken on wells while flowing, gave the following productivity factors:

Carter's No. 1 Cradduck—32.50 bbls./day/1 lb. drop in pressure.

Crosbie's No. 3 Hardin—8.80 bbls./day/1 lb. drop in pressure.

Blackstock's No. 2 Hardin—8.84 bbls./day/1 lb. drop in pressure.

Blackstock's No. 3 Hardin—14.17 bbls./day/1 lb. drop in pressure.

Bottom hole flowing characteristics of four wells in the pool indicate pressure drops of approximately 200 pounds per square inch at a flowing rate of 100 bbls. per hour. There appears to be no free gas in the formation. Gas-oil ratios approximate 500 cubic feet per barrel.

Drilling

Wells in the field are drilled entirely with rotary tools. Surface hole is made with 11-inch bit and reamed to 17¼ inches, the reaming being commonly done with a pilot bit and two reamers. One contractor who uses mud transferred from completed wells to drill surface hole reports a saving of approximately 20 hours drilling time as a result. In some wells the 11-inch hole has been carried to about the top of the Viola lime, while in others a reduction to 8¾ inches is made at about 2,000 feet. Light bit pressures are maintained while drilling above 3,000 feet, after which the weight which will give the best drilling conditions is used. The well is drilled in with a 6¼-inch bit. One contractor reports an average of about 50 bits per well, about 7 of these being used below the oil string. Twist off of drill pipe is quite prevalent in the field, averaging close to one per well. Circulating pressures range between 750 and 800 pounds per square inch.

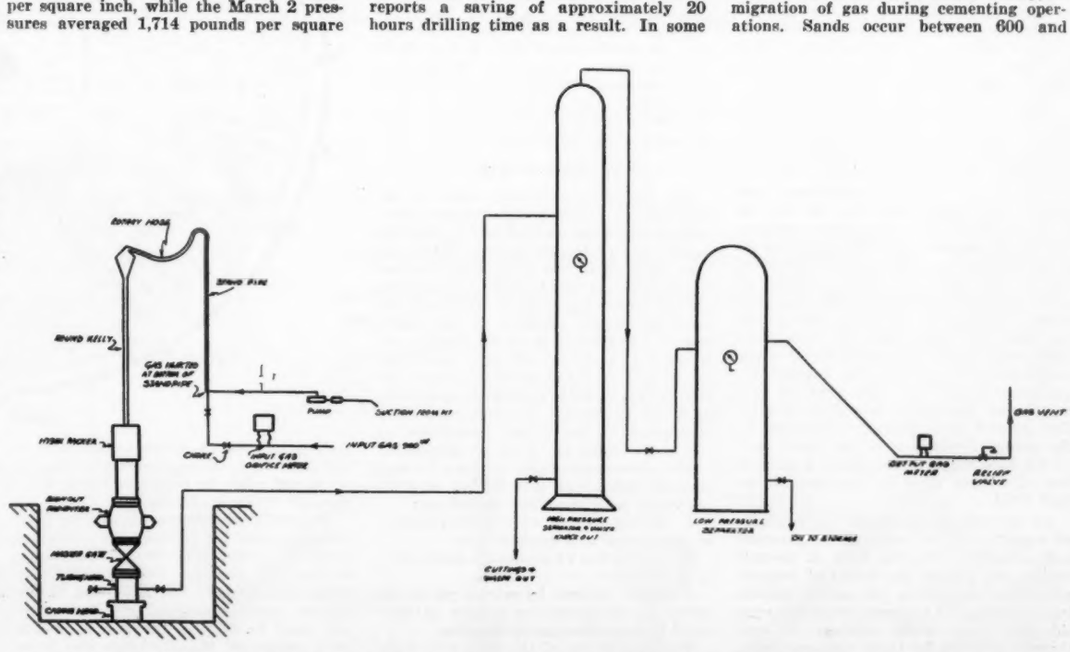
Rigging up tools usually requires five days time. Surface hole is made in approximately 40 hours. The usual time under the surface pipe to top of Viola is 35 to 40 days and an average of seven days is required to drill the well in.

Considerable trouble from blowouts has been experienced, particularly on the west side of the field. Drilling mud approximating 9½ to 10 pounds per gallon is commonly used. It is believed that shallow sands have taken on excessive pressures, due to migration of gas from lower formations. It is reported that one well made 200 bbls. of salt water per day against a mud weighing 11 pounds. In another well 14-pound mud failed to confine the salt water to the formation. In a third well 12-pound mud held the water in the formation.

The natural shales lying between the surface and a depth of 2,400 feet make very good drilling mud and a fluid weighing up to 10.5 pounds can be produced without exceeding the viscosity limit. The mud responds well to chemical treatment and proper weight and viscosity can be maintained by the intelligent use of water. Where natural muds have failed to meet weight and viscosity requirements, weight material is added and the colloidal properties improved by the use of gell type material. Interesting experiments in the use of fibrous materials have been carried on by the Phillips Petroleum Co. These will, no doubt, be covered in another paper to be presented at this session and will not be treated here.

Cementing

Cementing in the Fitts Pool has probably presented the most serious problem, and at this time has not been satisfactorily solved. The State Corporation Commission has required the cementing of the oil string from top to bottom. Operators have experienced considerable difficulty in placing an impervious body of cement behind the pipe, due, probably, to migration of gas during cementing operations. Sands occur between 600 and



Hook-up at well head when drilling in E. H. Moore's No. 4-B Smith, Fitts Pool. This was the first well completed by this method in this pool and subsequent completions called for slight changes in hook-up

*Before Mid-Continent District, A.P.I. Division of Production, Amarillo, Tex., April 11. Author's title: "Drilling and Production Problems in the Development of the Fitts Pool."

1,800 feet which have high porosity and pressures less than imposed by the cement column. This results in the loss of cement to these formations. Complete loss of returns are common when cementing with 2,000 to 2,400 sacks.

Cement jobs in the field are now carried out with two trucks, the cement usually being placed in less than an hour's time. Slurries weighing approximately 14½ pounds per gallon are prevalent. The use of colloidal material up to about 5 per cent is common. This is added to the hopper as the cement is mixed. It is very likely that intimate mixing is not had by this method, and that much less than 5 per cent of the material is evenly dispersed throughout the volume of mixed cement. Experience to date seems to recommend the use of colloidal material. It is thought that the use of high early strength cements is also desirable as early setting will reduce the extent of honeycombing by gas. Cementing down time can also be reduced through the use of quick-setting cements.

Leakage of gas between surface pipe and oil strings is quite prevalent. This has been remedied in some cases by placing of cement through the bradenhead.

Several experiments have been made in an effort to determine the ratio of actual cement required for complete circulation to the theoretical amount based on drill hole diameter and O.D. of pipe. One operator placed 10 pounds of ordinary rice in the mud stream, catching the rice on a screen upon its return to the surface. Volume of cement required, computed on an assumed pump volumetric efficiency of 85 per cent, gave a required volume of 2,380 sacks. It is very likely that the pump efficiency in this case was placed too high and that, actually, less than 2,380 cubic feet of mud was required for circulation. In any event, cement requirements based on this type of test would not guarantee complete circulation as the high pressures imposed on the porous formations in the upper part of the hole would bring about a greater loss of volume than in the case of the mud fluid.

An interesting experiment was conducted recently in the way of temperature measurements down the hole. A thermocouple was run in the hole and temperature recorded within the casing, following cementing. As cement generates considerable heat while setting, it was thought possible, by these measurements, to determine the points at which poor cementing had taken place. A temperature difference of approximately 8° F. was noted at depths of from 500 to 600 feet, at 1,100 feet, at from 1,600 to 1,800 feet, and at 2,000 feet, below the surface. This particular well had been cemented with 3,600 sacks of cement, 2,000 of which were placed by circulation under the casing shoe, the remaining 1,600 being pumped down the bradenhead.

Until recently most wells in the field have been washed in with water, upon completion. With decline in bottom hole pressure, it is difficult to bring wells in under a head of water, and wells are now washed in with oil. The well is allowed to flow open through the casing for a period of about one hour after washing in.

Three wells in the southwest part of the field are showing approximately 8 per cent salt water when producing at open flow through the tubing. The source of this water has not yet been determined, but steps are to be taken soon to attempt to determine its origin. This is an exceedingly difficult task in the face of a formation thickness of more than 500 feet. A Schlumberger survey will likely be made on one of the wells in the hope that this will indicate the position in the formation at which water is entering the hole. Plug-off operations may then be more intelligently carried out.

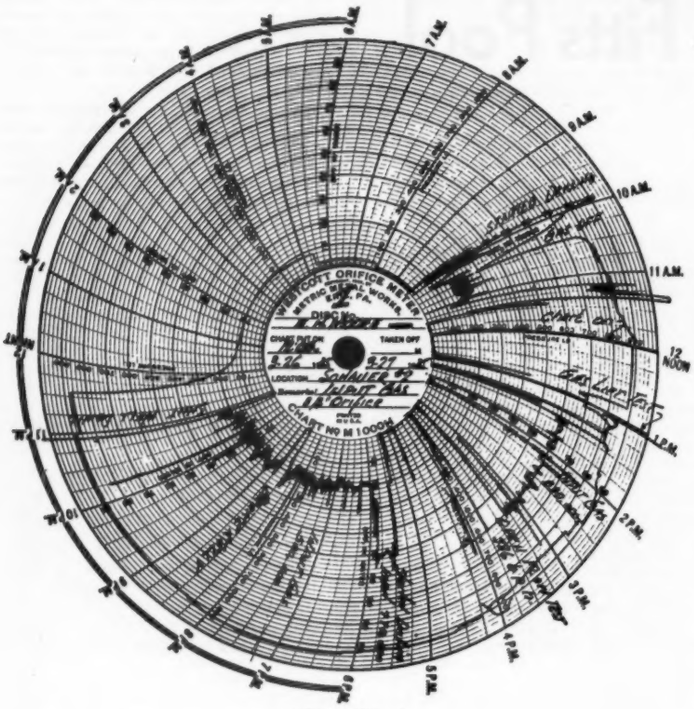


Chart No. 1

Pressure Drilling

The writer is sure that many in the audience are familiar with pressure drilling operations as carried out in the Big Lake Field of Regan County, Texas. In that field, as in the Fitts Pool, producing sections of great thickness are penetrated with an open hole. The desire on the part of the operator to gain more complete knowledge as to the quality and structural position of the producing sands, and at the same time protect the pay against possible damage from drilling mud, led to the use of pressure drilling equipment in the recent completion of two wells on the E. H. Moore properties.

The advantages which we hope to gain through the use of this method of drilling might be summarized as follows:

1. Exact logging of productive zones as to position and productivity.
2. Protection of producing sands from mud intrusion.
3. More reliable knowledge as to the nature of the producing section as indicated by uncontaminated samples.

The completion of the first two wells with pressure equipment convinces us that these objectives can be attained, in a practical way. While it is a little early to predict the extent to which this method of drilling will be used in the Fitts Pool, it may be said that the operations as carried out on the two initial wells were entirely successful and appear to justify the further use of the equipment.

The equipment as employed on the two wells recently completed consisted of the following essentials: (1) Hydraulic rotary table driven through a conventional type drawworks in the usual manner. (2) String of 3½-inch O.D. flush joint drill pipe. (3) Hydril combination drilling packer mounted on the casinghead. (4) High pressure water knockout. (5) Low pressure oil and gas separator. (6) Metered high pressure gas supply. (7) Metered gas output. (8) Pumps for circulation of drilling fluid. Certain auxiliary equipment such as boiler, tankage, flow lines, etc., was also employed.

Two Particular Wells

The function of the various units comprising the pressure drilling rig are by now familiar to the industry. It may be well, however, to briefly outline the operations as carried out on the two particular wells: The use of flush joint drill pipe is made necessary by reason of the relatively high pressures carried on the well head during drilling, it being necessary to pack off around the Kelly joint in order to prevent the escape of gas and oil after penetration of the oil-bearing strata. This is accomplished by the use of a round Kelly and a special drilling packer, which encircles the drill pipe, the packer being mounted on the casinghead. Rotary motion is imparted to the drill pipe by special slips which grip the flush joint pipe; the same slips support the drill pipe in the rotary table. As the slips support and grip the pipe, and are in turn supported by the rotary table, it becomes necessary to provide special means of feeding the bit. This is accomplished by supporting the table on hydraulic cylinders into which a fluid may be pumped to raise the table and from which fluid is allowed to escape as the table is fed downward. Rotary motion is imparted to the table by means of chain drive through standard drawworks.

The well's production, the drilling fluid input gas and bit cuttings are conducted from the casinghead through flow lines to the high pressure water knockout in which the cuttings and a portion of the drilling water is dropped out. Back pressure may be held on the well by means of a choke on the discharge line from the high pressure separator. Oil, gas and a portion of the drilling water pass through a common outlet in the high pressure separator to a conventional low pressure oil and gas separator, in which separation is completed, the oil going to the lease storage and gas to vent. The drilling water carried over from the high pressure separator is drawn off at the bottom of the low pressure separator and discharged to the slush pits.

The drilling fluid employed was clean water and was pumped down the drill pipe by means of a conventional slush pump. The pump, however, was equipped with 4½-inch liners in order to facilitate lower rates of input to the well. High pressure gas was injected into the pump discharge line at the base of the standpipe.

Prime Objective

The prime objective to be attained in this type of pressure drilling is the maintenance of pressures on bottom which permit the well to produce throughout the drilling operations. This is accomplished by the use of drilling fluid made light by gas aeration. Gas, at a pressure of some 900 pounds per square inch, was conducted, through an orifice meter, to the foot of the standpipe where it entered the flow of the circulating drilling water. It was found that a gas-water ratio of approximately 150 to 250 cubic feet per barrel maintained satisfactory bottom hole pressures.

It was at first thought that gas input could be discontinued at such time as the first big prolific pay sand was penetrated. However, while drilling ahead after penetrating prolific sand sections, the bottom hole pressure differential was reduced, due to continued drain on the formation. This relatively high rate of formation pressure decline made necessary input of gas throughout the entire drilling operations.

Water was pumped down the drill pipe at the rate of approximately 140 bbls. per hour. Circulating pressures remained steady throughout, at approximately 600 pounds per square inch. It was found advisable to provide a positive head on the pump suction as this greatly assisted in obtaining constant rates of water circulation.

The rate of flow of the input gas was regulated manually through a choke, in the case of the first well, and by means of a conventional gate valve on the second well. In order that stable conditions might prevail throughout the drilling period, the input gas-water ratio was maintained over a range of from 150 to 300 cubic feet per barrel. When this is done, increases in oil production may be

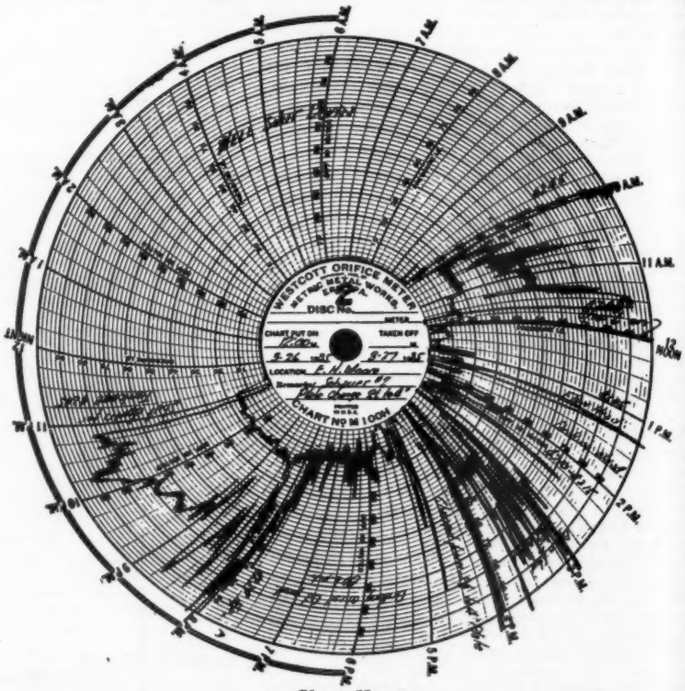


Chart No. 2

PENBERTHY LIQUID LEVEL GAGES

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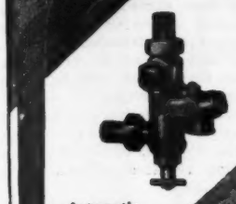
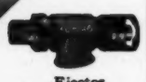
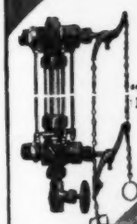

Automatic Injector


Ejector, Syphon or Jet Pump


"Navy Type" Liquid Level Gage

"Safeguard" Automatic Liquid Level Gage

"All-Iron" Automatic Liquid Level Gage

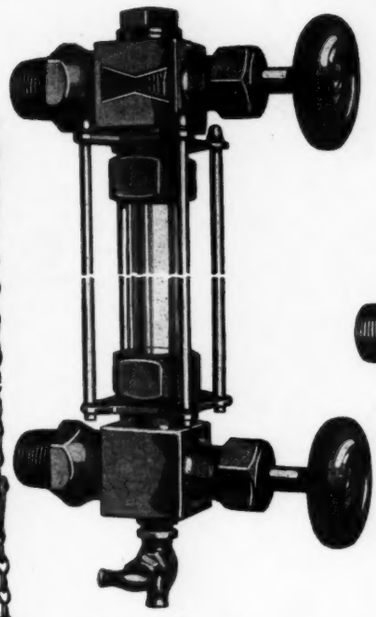
Gas Engine Lubricator

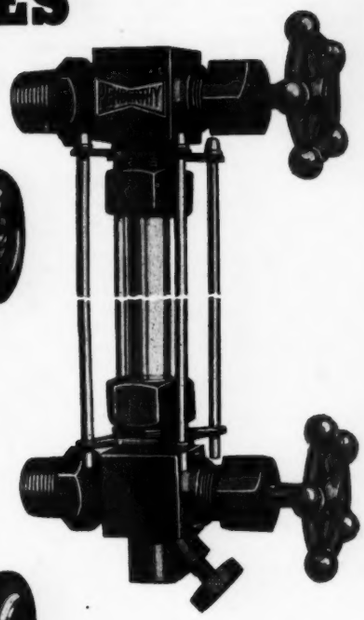
Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup

"NAVY TYPE"
350 LBS. WORKING PRESSURE
500° F.


"SAFEGUARD"
300 LBS. WORKING PRESSURE
500° F.


"ALL IRON"
500 LBS. WORKING PRESSURE
750° F.

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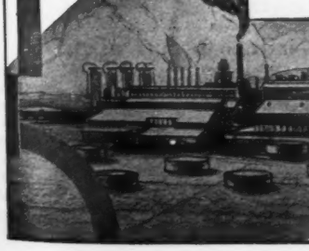

Screw Plunger Grease Cup

Spring Compression Grease Cup

Automatic Electric Sump Pump

Automatic Cellar Drainer (Water or Steam Operated)

Dipless Air Cock

observed and accurately measured by comparison of input and output gas measurements. This is made possible by reason of the fact that there exists little or no free gas in the producing formation, the gas-oil ratio remaining constant, and, as a result, increases in gas are indicative of proportionate increases in oil.

As drilling proceeds, each additional pay streak is evidenced by an increase in output gas. If then the gas entering the drilling fluid remains constant and the rate of water injection is held level, the flow of oil and gas into the drill hole will be at a rate which is proportional to the well's productivity at any time or at any particular depth, for the reason that the differential pressure across the face of the drill hole remains near constant under restricted rate of production. However, even in case of irregular rate of gas input new pay strata will be reflected by an abrupt increase in gas flow from the well.

Experience on the two wells, just completed, indicates the advisability of maintaining gas input rates of some 250 cubic feet per barrel even after highly prolific pay zones have been penetrated. However, in a field where large quantities of free gas are present in the formation, this should not be necessary. This high rate of gas input permits the maintenance of higher back pressures on the well, the energy of the input gas assisting in lifting the oil and water; thereby reducing drain on the producing formations, while drilling.

Ratio Employed

No attempt was made to calculate, precisely, the bottom hole pressure resulting from any particular gas-water ratio as such calculations are of such complexity as to be almost indeterminate. It was thought more practical to assume a ratio which would provide a good margin of safety and to make every effort to hold this ratio as nearly constant as possible. The ratio employed gives bottom pressures of some 600 to 800 pounds less than formation pressures, and if this density is maintained there can be no doubt that the producing formation will react when penetrated by the bit. If then, input rates of water and gas are closely controlled, even slight increases in production from the formation can be logged as to depth and magnitude.

The industry has long speculated on the probable effect of drilling muds on producing sands. There is little doubt that in certain areas the pays have been damaged by intrusion of heavy drilling fluids. We cannot say definitely, at this time, whether damage has been done to the producing formations in the Fitts Pool. The high permeability of the Bromide sands, coupled with high formation pressures, reduce the probability of injury to the pay. Later in the life of the field, when formation pressures have been further reduced, there will be greater danger of damage from this source. We do know this, however, that pressure drilled wells cannot possibly be injured by drilling fluids for the simple reason that the producing sands are actively giving up oil during the time they are being drilled. Drilling fluid positively cannot enter the pay so long as the well remains alive. You quite obviously cannot have a flow in and out of the formation at the same time.

The first well drilled in under pressure, Smith B-4, is offset to the east by a well having a tubing potential of 141 bbls. per hour, and on the west by a well having a tubing potential of 213 bbls. per hour. The pressure drilled well gave a tubing potential of 151 bbls. per hour. These figures are not at all conclusive. Several more pressure completions, however, may furnish sufficient information on which to base an opinion as to the effect of mud on the producing sands.

More Accurate Logging

It is the writer's opinion that the greatest service rendered by pressure equipment in the Fitts Pool will be in making possible more accurate logging of the producing section. There can be no doubt that, under reasonably good operating conditions, formation changes may be logged to within a few inches of their actual depth and their productivity determined with reasonable accuracy. Sampling is greatly simplified for the reason that cuttings taken from the circulating stream exactly represent the nature of the formation being drilled. The samples obtained are clean and entirely free from material foreign to the strata being penetrated. While drilling a portion of the lower Bromide sands, samples were taken at three-minute intervals. As drilling speed in this zone was at the rate of approximately 10 feet per hour the sampling interval was approximately 6 inches. Remarkably sharp breaks in the character of the formation were logged. Samples separated by only 6-inch intervals varied greatly in character. There is little doubt that sampling of this nature furnishes information comparable to that of coring, with the further advantage of assuring complete recovery. In fact, it is possible to recover practically 100 per cent of the drill hole cuttings.

As might be expected in any new operation of this magnitude, mechanical difficulties were experienced which somewhat hampered the precision of the work. Most of these troubles were chargeable to equipment other than the pressure equipment itself. These difficulties were almost entirely eliminated in the latter part of the second run, and it is believed that on the next well drilled they can be still further reduced.

It can be definitely said that drilling speeds with this type of equipment are as fast as can be had with the conventional rotary. Bit wear is reduced for the reason that the hole is kept free of cuttings. When new bits were run in, the hole was found to be absolutely clean to bottom.

The two wells were drilled with the conventional three cone bit, 6¼-inch size, above which was placed a three point reamer. Drill pipe was 3½-inch O.D. 13.3-pound flush joint A.P.I. pipe with Hydril external flush tool joints. No difficulty was experienced from cavings of the drill hole.

The pressure drilling equipment included hydraulic rams for snubbing the drill pipe in and out of the hole, under pressure. It was found unnecessary to use this equipment except in coming out of the hole upon completion of drilling. In the case of both wells, a new bit was run in just prior to the topping of the first Bromide sand. These bits completed the hole, in both cases making necessary only one snubbing operation on each well.

Production Tests

As indicated above, the accuracy of control on the first two wells was not all that could be desired. For this reason it became necessary to make frequent tests of the well to determine its productivity at certain depths, as the drilling proceeded. These production tests were of three types: (1) Fill up test, (2) open flow and (3) gas lift test. The fill up test was made while making a trip to change bits and consisted simply of cleaning the well of fluid, at the end of which time the well was unloaded and the production measured. More accurate determination of the well's productivity was made by means of gas lift while drilling the Viola and upper Bromide sections. In this case the well was unloaded and gas lifted for a few hours. Upon penetration of the first Bromide sand the wells flow naturally and production tests may be made by natural flow. It is thought that subsequent wells may be accurately logged without this type of testing, as more accurate control of gas-water ratios and higher rates of gas input will make conditions much more stable, with the result that increases in productivity may be accurately logged by comparative measurements of input and output gas.

The preceding discussion outlines, in a brief way, the essential phases of pressure drilling as carried out in completion of the Smith B-4 and the Schauer No. 2 wells of E. H. Moore. The following is an explanation of the meter charts covering a 24-hour period, while drilling in the Bromide pay at a depth of from 4,205 to 4,248 feet, the last depth being the top of the McLish lime, at which point wells in the Fitts Pool are bottomed.

Chart No. 1 is a record of the gas input to the drilling fluid. At noon March 26 the drilling crew were running in drill pipe after changing bits. The input gas was, therefore, shut off. As soon as the pipe was on bottom, about 1 p.m., the well was unloaded and flowed for a few minutes by gas lift, in order to clean the hole of accumulated fluid. The well then drilled ahead with a constant gas input rate of 830,000 cubic feet per day. Referring to Chart No. 2, which is taken from the gas output meter and covers the same period of time as No. 1, we note that the output flow from 1 p.m. to 2:45 p.m. is very unstable, the well having a tendency to head. At 2:45 p.m. a big increase in gas from the well is noted. This flow exceeded the capacity of the 2½-inch orifice plate and as a result no accurate determination of its volume was made. The oil production, however, was determined by a half hour open flow production test. The well was found to have a production rate of 8,000 bbls. per day at this depth (4,215 feet). At 4 p.m. the 2½-inch orifice plate was changed, being replaced with a 4-inch plate.

At 4:30 p.m. drilling was resumed at a depth of 4,215 feet. Gas was introduced at the rate of 500,000 cubic feet per day. The gross output from the well being at the rate of approximately 2,000,000 cubic feet per day, giving a net gas production from the pay of 1,500,000 cubic feet. During this period the well produced, through the drilling fluid, at a rate of approximately 80 bbls. per hour. Water circulation during the period was held constant at 125 bbls. per hour.

At 7:45 p.m. the bit penetrated a second oil sand of extremely high productivity. Gas output from the well increased from 2,000,000 cubic feet per day to a rate of near 5,000,000. Referring to Chart No. 3, which is a record of the casing pressures, we note that shortly after entering this second Bromide sand the well head pressure reached 400 pounds for a short period of time. It is interesting to note the surges of gas flow from the formations as drilling progressed. Samples of drill cuttings were taken at three-minute intervals making possible an extremely accurate log of the sand section.

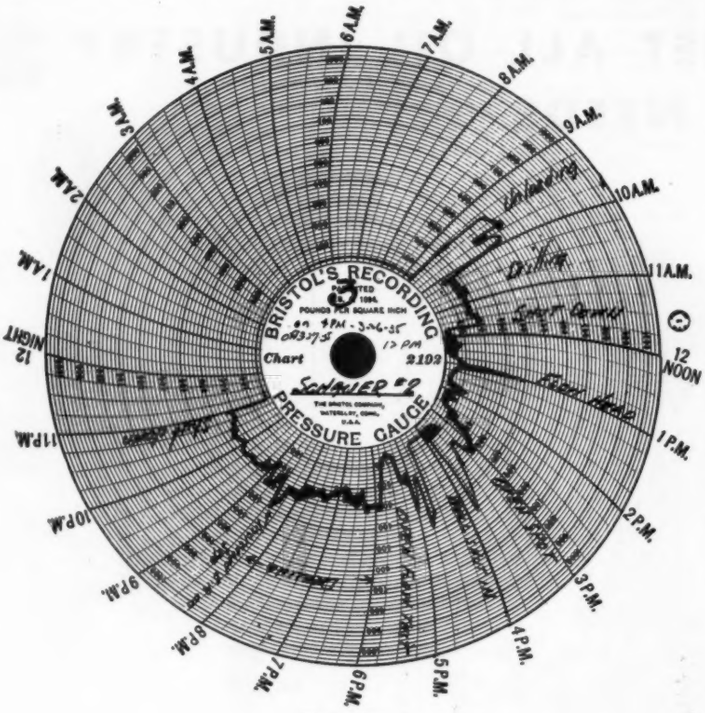

Chart No. 3

Back Pressure Employed

A back pressure of nearly 200 pounds per square inch was held against the well, during the period from 6 p.m. to 11 p.m., casinghead pressure holding steady at approximately 400 bbls. per hour between the hours of 8 p.m. and 10:50 p.m., at which time it became necessary to shut the rig down as no more tank space was available.

Drilling was resumed at a depth of 4,245 feet at 10 a.m. the next morning but before the well had reached a stable condition the bit topped the McLish lime and drilling was discontinued.

The output meter chart (No. 2) illustrates, quite forcibly, the time at which the rich sands were topped. The driller logged the time of each additional foot of depth. This information, coupled with the high frequency of the sampling, constitutes a complete and accurate record of the formation characteristics. Tank gauges were made at half hour intervals while drilling the lower Bromide pay. Some 3,000 bbls. of oil was produced and run to storage during the complete drilling in of the well. A part of this required chemical treatment but all of it was brought up to pipe line requirements.

It is evident from Chart No. 2 that the rapid rate of production while drilling the last 16 feet of hole so reduced formation pressures that it became difficult to accurately log additional pay streaks below a depth of 4,229 feet. It is thought that this deficiency can be eliminated by increasing the gas input rate to 1,000,000 cubic feet per day and maintaining higher back pressure on the well.

In conclusion, we may add that drilling in of the two initial wells by the pressure method has proven the system entirely practical for use in the Fitts Pool. The principal objectives were attained on the initial wells and it is very likely that future completions will further demonstrate the advantages of this method of drilling.

RAILROAD SUIT DISMISSED

SAN ANTONIO, Tex., Apr. 15.—By agreement of counsel, the Railroad Commission injunction suit against the Texas & New Orleans and 31 railroads prohibiting transportation of oil in interstate traffic without tenders from the commission was dismissed by federal Judge R. J. McMillan. The court announced the roads can transport oil after receiving tenders from the Federal Tender Board.

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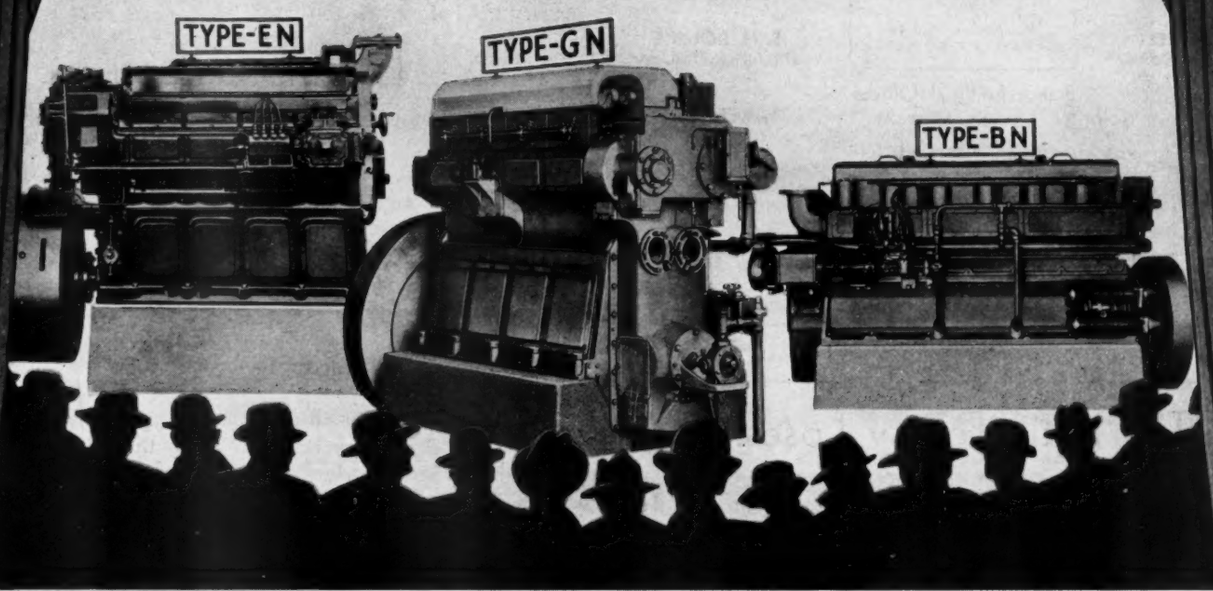

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The Little Fellow Loses

Advocates of the federal control bill before Congress are making loud claims that it is being demanded by the "little fellows" in the business, the small independents, producers, refiners, marketers and filling station operators.

Possibly it is, because the "little man" in any business has a hard time of it by reason of his inability to meet competition on even terms and he is always ready to listen to anyone telling him the government can give him relief by legislation. "There ought to be a law" is a perpetual rainbow.

The N.R.A. was like that. It was to stop chiseling, to stamp out trickery and unfair competition so the little fellow could survive. But has it? Apparently not, judging by the clamor of complaints from the very same little fellows that they are being run out of business by price fixing and monopoly, and higher wages and shorter hours and cutthroat competition at every turn.

As a matter of record it has always been that way. No law has ever been found that could do what the "little fellow" thought it ought to do. On the contrary, he has discovered that his trust in legislation was fallacious, that it bore down as heavily on him as on anyone else, often more heavily because he was less able to stand it.

If business were regimented the way the little man thinks he wants it he would be sadly disappointed to find himself regimented too. These restrictions we would wish on our competitors we seldom think of being applied to ourselves, or we would see how ineffective they must be.

The "little fellows" in the oil business have had almost two years of government control. What has it done for them?

Another Tax on Oil

A bill to levy a tax of one-half cent a gallon on fuel oil and Diesel oil has been introduced in Congress by Representative Lloyd of the State of Washington, presumably sponsored by the coal industry.

We now have a tax on gasoline and a tax on motor oil. This bill would add a tax on approximately half of every barrel of crude. Once it is adopted by Congress it would appeal to the tax seeking legislators in many states as a new source of revenue and we would have still another pyramiding of taxation.

There are today a million American home owners who have invested approximately a half billion dollars in oil burners. Now they find themselves threatened with a penalizing tax because they had the temerity to stop buying coal.

The consumer will awake one of these days to the significance of discriminatory legislation by which competing industries strive to handicap rivals through special taxation or restrictions. Proposals in several states for a tax on natural gas may be traced to the same source as this proposition to tax fuel oil.

The number of oil burners in the United States only passed the 100,000 mark in 1924, passed the 500,000 mark in 1930 and has almost doubled since then. Its ratio of increase may yet match that of the automobile. The oil industry is deeply interested in the development of the burning oil market and should protest this plainly discriminatory tax before it is too late.

End the Uncertainty

The White House conference on oil legislation, far from echoing Administrator Ickes' sneer at the interstate compact as "a red herring drawn across the trail," put congressional approval of the compact in first place.

The conference might well have stopped with that recommendation. Oklahoma, Texas, Kansas, New Mexico and California have ratified or are concluding ratification of the compact, ready to put it into operation as soon as approved by Congress.

For the first time the leading oil producing states will be brought together into a working agreement, mutually pledged to co-operative regulation.

Chairman Cole of the House subcommittee which made a personal study of the oil industry last year takes the sensible view that the States should be given an opportunity to show that the compact can be effective.

There are no legal or constitutional questions involved in that course. The industry could go ahead with its planning, freed from the uncertainty of hampering, or questionable federal legislation that might not reach a final decision in the courts in years.

Congress has already had one set-back in court on "hot" oil movement necessitating a new enactment. A Federal Circuit court in California has certified a case for rulings by the Supreme court which involves both the constitutionality of the N.R.A. and of the petroleum code, questioning whether the act established sufficient standards to constitute legislation as a basis for administrative regulation and whether Congress had the constitutional authority to delegate legislative power to a code administration.

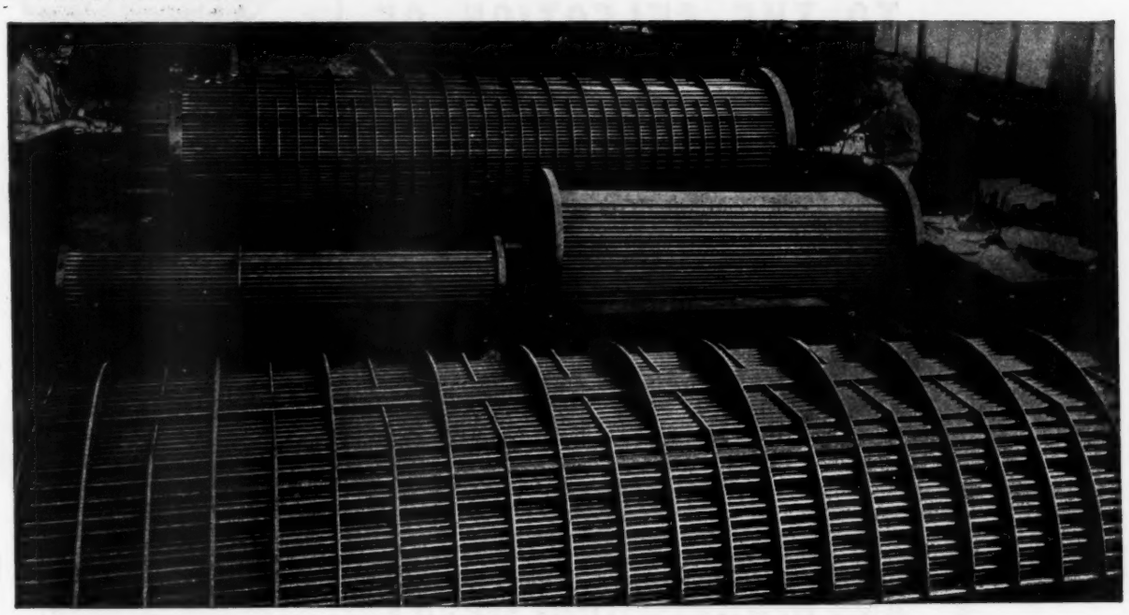
No wonder there is a growing sentiment in Congress against further legislative leaps into the dark and an increasing insistence upon applying the brakes until a judicial determination of the constitutional principles involved makes the way clear.

This smothering uncertainty, intensified by stifling increases in taxation, is forcing a "wait and see" attitude on all business which is retarding recovery. Enterprise is discouraged because the risks are unknown. Expansion is restricted because conditions cannot be guessed.

If the oil industry is to be declared a public utility as Administrator Ickes threatened or if every lease and unit is to be subjected to the direct control of a Federal bureau as the Petroleum Administration is understood to favor what can be the result? And judging from what has happened nothing is too absurd to be impossible of attempting.

For these reasons oil men in every branch of the business should bombard their representatives in Congress by wire and mail with appeals to stand by Chairman Cole and limit legislation to approval of the interstate compact, and not further confuse the situation by proposals for federal control that will prolong the uncertainty and hinder recovery.

47 KELLOGG HEAT EXCHANGERS



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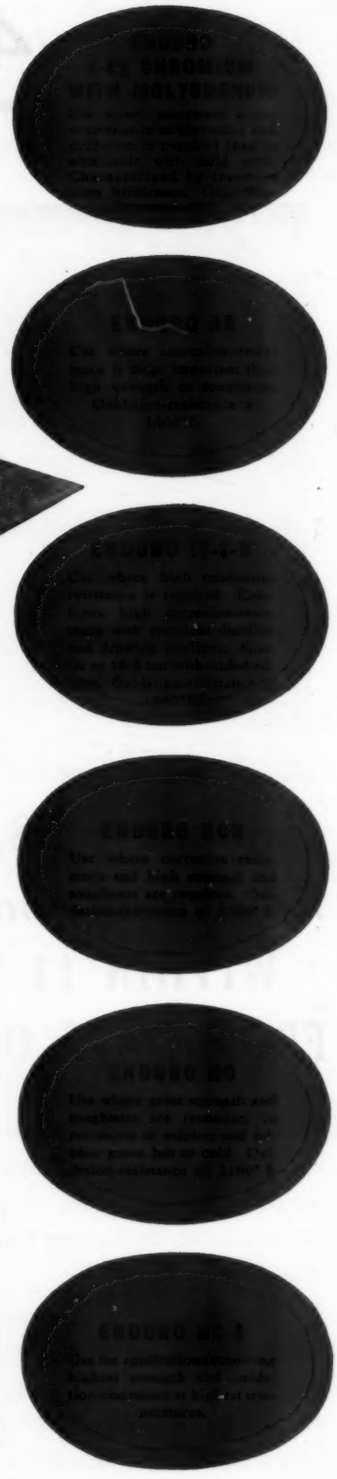

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WASHINGTON NEWS

(Continued from Page 12)

contended the control feature of the Thomas bill was to regulate quotas in commerce, but stated the bill would prohibit any producer in any pool from disposing of or shipping his crude in any way if his production were above the figure set by the federal authorities.

In regard to the contention of Secretary Ickes that it is desirable to have federal authority for the regulation of new pools and drilling in pools Judge Beaty said such regulation would be desirable if it were legal and he mentioned the decision of Federal Judge Vaught in support of his own view that such power cannot be held legally by federal authorities.

Connally Opposes

Senator Connally seemed to express the opinion of those opposing the bill when he said the logical and inevitable result of giving the Federal Government control over crude oil production within a state is to give the Federal Government control over every operation and phase of the petroleum industry, even down to the filling station and price the consumer or automobile owner must pay for gasoline and lubricating oil.

Governor Allred of Texas will speak against the bill before the committee and contend the measure is unconstitutional and entirely unnecessary in view of the fact an interstate compact has been adopted by the various states and signed by the governors of four of the states—Texas, Oklahoma, New Mexico and Kansas. The compact has been recommended in California.

Mr. Brown, speaking as the representative of Governor Marland of Oklahoma, will oppose the Thomas bill as being unconstitutional. He contends the interstate compact will provide all the regulation now necessary for the petroleum industry. Senator Patterson of California feels the same way and will so state his position and the position of California on the Thomas bill. It is understood Governor Tingley of New Mexico will voice his opposition to the bill for similar reasons.

Considerable resentment was expressed in some quarters here today that no representative of Texas or California was invited to or was present at the conference held at the White House Saturday when legislation affecting the petroleum industry was discussed.

Colonel Thompson's Protest

Col. Ernest O. Thompson, chairman of the Railroad Commission of Texas, in stating his opposition to the Thomas bill, said in part:

"I wish to express my unalterable opposition to the pending bill. Its unconcealed purpose is to regulate and limit production of oil in the several states. Moreover, the undisguised limit of that production is fixed at the demand for consumption in the United States and for export as shall be arbitrarily determined by a board of five members. Not content with this extraordinary grant of control to a federal board over the strictly internal affairs of the several states, the bill goes further and authorizes the board to exert that power within the boundaries of the states by prescribing production quotas for pools, fields and even to the very leases on which the wells are located.

"The bill proposes the exercise of a power by a board, the reach and consequence of which repel its adoption. If enacted into law it would at once modify property rights and uses of property valued at billions of dollars. Such a law would vest absolute control of the oil industry in a Washington bureau. The injustices and grievances that past experience has shown will always flow from the autocratic and arbitrary exercises of such sweeping powers as this bill attempts to lodge in a new bureaucracy will never be righted for anyone but the most rich and powerful in the industry.

"Such a lust for power, such an utter disregard for the sovereignty of the states is unparalleled in the history of our National Government. If you gentlemen of the committee think for a moment the great army of American citizens who have a direct interest in this proposed legislation, that the several states and the constituted officers of the states are going to supinely submit to this extra-legal, this illegal and unconstitutional seizure of state power, then I am afraid you do not know the temper of the American people.

"The Congress has done all that it can do and all that is necessary to be done for the stabilization of the oil industry. What reason or excuse is offered for enactment of the present bill?"

Texas House Passes Bill on Trucks to Curb Intrastate "Hot Oil" Traffic

By L. E. BREDBERG

FORT WORTH, Tex., Apr. 16.—The house at Austin passed finally 109 to 25 the bill recommended by Governor Allred and the Railroad Commission to levy fines on shippers and haulers by trucks of untendered gasoline or oil.

An order for a statewide oil and gas proration hearing at Austin April 16, was issued by the Railroad Commission.

Daily overproduction in the East Texas Field this week, was at 33,000 bbls. The lowest estimate was 26,000 bbls. Tank car shipments of refined products from the field this week were as follows:

	Cars	Gallons
Gasoline	491	3,974,650
Fuel oil	244	2,370,980
Casinghead gasoline	116	1,016,500
Distillate	82	665,550
Kerosene	84	679,480
Gas oil	38	324,670
Residuum	44	381,040
Topped crude	19	166,850
Naphtha	8	64,790
Crude oil	5	50,352
Total	1,131	

This is a decrease of 84 cars under last week; 995 cars were shipped under tenders, and 136 untendered. Interstate shipments were cut from 535 cars last week to 496 cars. Intrastate shipments totaled 352 cars while 283 cars went for coastwise shipping.

There were 32 plants operating in the field this week, half of them said to be running on illegal oil. Daily runs decreased to 41,460 bbls., or nearly 7,500 bbls. below the previous week. One more plant is ready to start, Heath Refining Co., on the Isley lease, in the G. A. Thompson Survey, on the Texas and Pacific Railroad in Gregg County. Its capacity is reported 2,500 bbls. per day.

Ickes Insists Federal Control Is Necessary

(Continued from Page 12)

nize the need for proration and the methodizing of production, have by their own statutes placed the stamp of approval upon regulation. To be effective for the nation, however, it is obvious that regulation must be co-ordinated by the Federal Government.

"No state can regulate interstate commerce nor can one state protect its own citizens from laws or activities of the people of another state. Within certain limits state laws are invaluable, but to conclude that the states alone can cover the necessary ground here is simply to say that a few states, because they now produce crude oil, may alone control a matter which is beyond their power, and which affects every state, including other producing states and the citizens of the country as a whole. There is no proposed invasion here of state's rights. Regulation or methodizing of crude petroleum production and control of the development of new pools of this natural resource, so necessary to the national security, a resource exploited by an industry entirely interstate in character, is peculiarly a matter for the federal Government working with the states where state conservation laws exist.

"Such being the case, no one may claim that the rights of any state would be invaded, nor has the industry itself any reason to oppose."

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report that a severe magnetic storm started at 8 p.m. (C.S.T.) on the tenth and continued until 6 p.m. (C.S.T.) on the fourteenth. The telegrams follow:

"Storm began tenth. Two. Severe."

"Storm ended fourteenth. Twelve."

STANDARD OF CALIFORNIA

Standard Oil Co. of California reports net earnings for the year 1934 of $18,327,807 which amounts to $1.40 per share. This compares with 1933 earnings of $7,540,902 or 58 cents per share.

Thirty Miles of Gas Line to Be Built in Michigan

MUSKEGON, Mich., Apr. 16.—Petroleum Transportation Co., new $50,000 Michigan corporation, yesterday closed a deal with Consumers Power Co. for the purchase by the latter of the natural gas output of six central Michigan producers in Montcalm and Mecosta Counties, assuring 30 miles of pipe lines, a $200,000 investment.

Michigan Exploration Co., of Muskegon; Gordon Oil Co., of Mount Pleasant, Mich., and Logan, Ohio; Columbia Oil & Gas Co., of Kalamazoo, Mich.; F. Irwin Bryan and Harry T. Martin, of Detroit; Dr. Virgil R. D. Kirkham and James C. Graves, of Saginaw, Mich., are organizers of Petroleum Transportation Co., which is to be paid 15 cents per 1,000 feet at the Consumers company's line.

Barnsdall Directors to Pass on Structure

Subject to approval of the plan by its board of directors April 26 the Barnsdall Corp. proposes to declare a liquidating dividend in the form of stock to be issued in the name of the Barnsdall Refining Co. to be organized to include all of the refining and marketing properties of the original Barnsdall group. The proposal provides for distributing this stock among the present Barnsdall shareholders proportionately, the Barnsdall Corp. to retain in its own name only those properties dealing with the finding, producing and selling of crude oil.

The official statement by E. B. Reeser, president of the Barnsdall Corp., regarding the plan appears as follows:

"In view of the recent rumors, and so that the stockholders of Barnsdall Corp. and the public shall not be confused, Barnsdall Corp. is considering a readjustment of its corporate structure so that the listed company shall only own subsidiaries who deal in the discovery, production and sale of crude oil. It is contemplated that the stockholders of Barnsdall Corp. will receive an interest in the refineries and marketing units so that they will own it as an entirety, which will be set up on an adjusted basis so that if the operation of any refineries and the distribution of the products of any refineries can be sold at a profit, this entity should operate at a profit; but if the plan is carried to a conclusion, in the event of the continued operations of the refineries and the sale of refined products in the industry being carried on at a loss, such loss shall not affect Barnsdall Corp., whose operations will be confined entirely to crude oil. The matter is complicated and needs great study, but has been approved in principle by the executive committee and is being submitted in a detailed way to the board of directors at an early date.

"This statement is issued in justice to the stockholders so that they should know what is being considered."

A.P.I. Production Program for San Antonio Session

The program arranged for the spring meeting of the Southwestern District of the American Petroleum Institute Division of Production to be held in San Antonio, Tex., April 25 and 26, at the Plaza Hotel is spread over two days and includes 10 special papers and addresses.

THURSDAY, APRIL 25

Morning Session—10 A. M.

Presiding—W. T. Doherty, Humble Oil & Refining Co., Houston, Tex.

Opening address—George A. Hill, Jr., president, Houston Oil Co., Houston, Tex.

Address—A. D. Simpson, president, National Bank of Commerce, Houston, Tex.

"Petroleum in Southwest Texas"—Thornton Davis, Simms Oil Co., San Antonio, Tex.

Afternoon Session—2 P. M.

Presiding—W. V. Vietti, Texas Co., Houston, Tex.

"Drilling Barges"—G. I. McBride, Texas Co., Shreveport, La.

"Paraffin Production Problems"—C. E. Reistle, Jr., East Texas Engineering Association, Kilgore, Tex.

"Corrosion: Its Nature and Effect on Selection and Installation of Production Equipment"—W. S. Crake, Shell Petroleum Corp., Houston, Tex.

FRIDAY, APRIL 26

Morning Session—9:30 A. M.

Presiding—Chase Sutton, Pure Oil Co., Houston, Tex.

"Drill Stem"—H. W. Fletcher, Hughes Tool Co., Houston, Tex.

"Blow-Out Prevention and Control"—W. V. Vietti and A. G. Levy, Texas Co., Houston, Tex.

"Progress of Aerial Photography and Development of Photographically Controlled Ownership Maps"—George S. Rice, Jr., Edgar Tobin Aerial Surveys, San Antonio, Tex.

"Benefits and Hazards Affecting the Oil Worker"—H. N. Blakeslee, director, Department of Accident Prevention, A.P.I., Dallas, Tex.

May Refinery Allocations Set by P. & C. Committee

WASHINGTON, D. C., Apr. 15.—Gasoline production quotas for May, by refinery districts, have been set as follows by the Planning and Coordination Committee:

District—	Allowed gasoline production (bbls.)	Required seasonal inventory changes (bbls.)
East Coast	5,810,000	— 548,000
Appalachian	1,636,000	— 18,000
Ind., Ill., Ky.	6,386,000	— 352,000
Okla., Kans., Mo.	4,593,000	— 671,000
Inland Texas	2,092,000	— 48,000
Texas Gulf Coast	6,781,000	— 166,000
East Texas	446,000	— 3,000
La. Gulf Coast	1,251,000	— 17,000
North La., Ark.	657,000	— 3,000
Rocky Mountain	893,000	— 18,000
California	5,813,000	— 336,000
Total	35,858,000	2,180,000

Gasoline production for the country has been set at 36,420,000 bbls., of which total 35,858,000 bbls. has been allocated. One per cent of the national total, or 364,000 bbls., has been reversed by the national co-ordinator for the use of the Refinery Board of Review in granting appeals from decisions of the district allocators, while 198,000 bbls. has been withheld to meet the demands of non-reporting refiners in East Texas.

If the program is carried through by the refiners a reduction of 2,180,000 bbls. in inventories will result. Observers here claim such action will practically assure the industry of a profitable season during the period of high gasoline consumption.

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AND HEAT-RESISTING SERVICE

No single analysis of stainless steel can adequately and economically serve all the needs of the oil refining industry. Varying degrees of corrosion and differences in operating temperatures call for the exercising of judgement in the selection of the correct steel for each individual application.

ENDURO, Republic's Perfected Stainless and Heat-Resisting Steel, is made in many analyses. The list at the right describes those that have been found most useful in refinery service. Use it as a guide.

ENDURO is available in many forms—sheets, plates, tubes, bars, wire, bolts, nuts, rivets and welding rod. These forms permit the fabrication of equipment having uniform corrosion- and heat-resisting properties throughout.

The experience of Republic's metallurgical staff is at your disposal when knotty problems present themselves. Take advantage of this service in the interest of economy.

ENDURO 4-6% CHROMIUM WITH MOLYBDENUM

Use where somewhat greater resistance to corrosion and oxidation is required than is obtainable with mild steel. Characterized by freedom from brittleness. Oxidation-resistance to 1300°F.

ENDURO AA

Use where corrosion-resistance is more important than high strength or toughness. Oxidation-resistance to 1600°F.

ENDURO 18-8-S

Use where high oxidation-resistance is required. Combines high corrosion-resistance with excellent ductility and drawing qualities. Similar to 18-8 but with added silicon. Oxidation-resistance to 1800°F.

ENDURO HCH

Use where corrosion-resistance and high strength and toughness are required. Oxidation-resistance to 2000°F.

ENDURO HC

Use where great strength and toughness are secondary to resistance to sulphur and sulphur gases, hot or cold. Oxidation-resistance to 2100°F.

ENDURO HC-S

Use for applications requiring highest strength and oxidation-resistance at highest temperatures.

CENTRAL ALLOY DIVISION . . MASSILLON, OHIO

REPUBLIC STEEL CORPORATION

GENERAL OFFICES YOUNGSTOWN, OHIO

WASHINGTON NEWS

(Continued from Page 12)

contended the control feature of the Thomas bill was to regulate quotas in commerce, but stated the bill would prohibit any producer in any pool from disposing of or shipping his crude in any way if his production were above the figure set by the federal authorities.

In regard to the contention of Secretary Ickes that it is desirable to have federal authority for the regulation of new pools and drilling in pools Judge Beaty said such regulation would be desirable if it were legal and he mentioned the decision of Federal Judge Vaught in support of his own view that such power cannot be held legally by federal authorities.

Connally Opposes

Senator Connally seemed to express the opinion of those opposing the bill when he said the logical and inevitable result of giving the Federal Government control over crude oil production within a state is to give the Federal Government control over every operation and phase of the petroleum industry, even down to the filling station and price the consumer or automobile owner must pay for gasoline and lubricating oil.

Governor Allred of Texas will speak against the bill before the committee and contend the measure is unconstitutional and entirely unnecessary in view of the fact an interstate compact has been adopted by the various states and signed by the governors of four of the states—Texas, Oklahoma, New Mexico and Kansas. The compact has been recommended in California.

Mr. Brown, speaking as the representative of Governor Marland of Oklahoma, will oppose the Thomas bill as being unconstitutional. He contends the interstate compact will provide all the regulation now necessary for the petroleum industry. Senator Patterson of California feels the same way and will so state his position and the position of California on the Thomas bill. It is understood Governor Tingley of New Mexico will voice his opposition to the bill for similar reasons.

Considerable resentment was expressed in some quarters here today that no representative of Texas or California was invited to or was present at the conference held at the White House Saturday when legislation affecting the petroleum industry was discussed.

Colonel Thompson's Protest

Col. Ernest O. Thompson, chairman of the Railroad Commission of Texas, in stating his opposition to the Thomas bill, said in part:

"I wish to express my unalterable opposition to the pending bill. Its unconcealed purpose is to regulate and limit production of oil in the several states. Moreover, the undisguised limit of that production is fixed at the demand for consumption in the United States and for export as shall be arbitrarily determined by a board of five members. Not content with this extraordinary grant of control to a federal board over the strictly internal affairs of the several states, the bill goes further and authorizes the board to exert that power within the boundaries of the states by prescribing production quotas for pools, fields and even to the very leases on which the wells are located.

"The bill proposes the exercise of a power by a board, the reach and consequence of which repel its adoption. If enacted into law it would at once modify property rights and uses of property valued at billions of dollars. Such a law would vest absolute control of the oil industry in a Washington bureau. The injustices and grievances that past experience has shown will always flow from the autocratic and arbitrary exercises of such sweeping powers as this bill attempts to lodge in a new bureaucracy will never be righted for anyone but the most rich and powerful in the industry.

"Such a lust for power, such an utter disregard for the sovereignty of the states is unparalleled in the history of our National Government. If you gentlemen of the committee think for a moment the great army of American citizens who have a direct interest in this proposed legislation, that the several states and the constituted officers of the states are going to supinely submit to this extra-legal, this illegal and unconstitutional seizure of state power, then I am afraid you do not know the temper of the American people.

"The Congress has done all that it can do and all that is necessary to be done for the stabilization of the oil industry. What reason or excuse is offered for enactment of the present bill?"

Texas House Passes Bill on Trucks to Curb Intrastate "Hot Oil" Traffic

By L. E. BREDBERG

FORT WORTH, Tex., Apr. 16.—The house at Austin passed finally 109 to 25 the bill recommended by Governor Allred and the Railroad Commission to levy fines on shippers and haulers by trucks of untendered gasoline or oil.

An order for a statewide oil and gas proration hearing at Austin April 16, was issued by the Railroad Commission.

Daily overproduction in the East Texas Field this week, was at 33,000 bbls. The lowest estimate was 26,000 bbls. Tank car shipments of refined products from the field this week were as follows:

	Cars	Gallons
Gasoline	491	3,974,650
Fuel oil	244	2,370,980
Casinghead gasoline	116	1,016,500
Distillate	82	665,550
Kerosene	84	679,480
Gas oil	38	324,670
Residuum	44	381,040
Topped crude	19	166,850
Naphtha	8	64,790
Crude oil	5	50,352
Total	1,131	

This is a decrease of 84 cars under last week; 995 cars were shipped under tenders, and 136 untendered. Interstate shipments were cut from 535 cars last week to 496 cars. Intrastate shipments totaled 352 cars while 283 cars went for coastwise shipping.

There were 32 plants operating in the field this week, half of them said to be running on illegal oil. Daily runs decreased to 41,460 bbls., or nearly 7,500 bbls. below the previous week. One more plant is ready to start, Heath Refining Co., on the Isley lease, in the G. A. Thompson Survey, on the Texas and Pacific Railroad in Gregg County. Its capacity is reported 2,500 bbls. per day.

Ickes Insists Federal Control Is Necessary

(Continued from Page 12)

nize the need for proration and the methodizing of production, have by their own statutes placed the stamp of approval upon regulation. To be effective for the nation, however, it is obvious that regulation must be co-ordinated by the Federal Government.

"No state can regulate interstate commerce nor can one state protect its own citizens from laws or activities of the people of another state. Within certain limits state laws are invaluable, but to conclude that the states alone can cover the necessary ground here is simply to say that a few states, because they now produce crude oil, may alone control a matter which is beyond their power, and which affects every state, including other producing states and the citizens of the country as a whole. There is no proposed invasion here of state's rights. Regulation or methodizing of crude petroleum production and control of the development of new pools of this natural resource, so necessary to the national security, a resource exploited by an industry entirely interstate in character, is peculiarly a matter for the federal Government working with the states where state conservation laws exist.

"Such being the case, no one may claim that the rights of any state would be invaded, nor has the industry itself any reason to oppose."

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report that a severe magnetic storm started at 8 p.m. (C.S.T.) on the tenth and continued until 6 p.m. (C.S.T.) on the fourteenth. The telegrams follow:

"Storm began tenth. Two. Severe."

"Storm ended fourteenth. Twelve."

STANDARD OF CALIFORNIA

Standard Oil Co. of California reports net earnings for the year 1934 of $18,327,807 which amounts to $1.40 per share. This compares with 1933 earnings of $7,540,902 or 58 cents per share.

Thirty Miles of Gas Line to Be Built in Michigan

MUSKEGON, Mich., Apr. 16.—Petroleum Transportation Co., new $50,000 Michigan corporation, yesterday closed a deal with Consumers Power Co. for the purchase by the latter of the natural gas output of six central Michigan producers in Montcalm and Mecosta Counties, assuring 30 miles of pipe lines, a $200,000 investment.

Michigan Exploration Co., of Muskegon; Gordon Oil Co., of Mount Pleasant, Mich., and Logan, Ohio; Columbia Oil & Gas Co., of Kalamazoo, Mich.; F. Irwin Bryan and Harry T. Martin, of Detroit; Dr. Virgil R. D. Kirkham and James C. Graves, of Saginaw, Mich., are organizers of Petroleum Transportation Co., which is to be paid 15 cents per 1,000 feet at the Consumers company's line.

Barnsdall Directors to Pass on Structure

Subject to approval of the plan by its board of directors April 26 the Barnsdall Corp. proposes to declare a liquidating dividend in the form of stock to be issued in the name of the Barnsdall Refining Co. to be organized to include all of the refining and marketing properties of the original Barnsdall group. The proposal provides for distributing this stock among the present Barnsdall shareholders proportionately, the Barnsdall Corp. to retain in its own name only those properties dealing with the finding, producing and selling of crude oil.

The official statement by E. B. Reeser, president of the Barnsdall Corp., regarding the plan appears as follows:

"In view of the recent rumors, and so that the stockholders of Barnsdall Corp. and the public shall not be confused, Barnsdall Corp. is considering a readjustment of its corporate structure so that the listed company shall only own subsidiaries who deal in the discovery, production and sale of crude oil. It is contemplated that the stockholders of Barnsdall Corp. will receive an interest in the refineries and marketing units so that they will own it as an entirety, which will be set up on an adjusted basis so that if the operation of any refineries and the distribution of the products of any refineries can be sold at a profit, this entity should operate at a profit; but if the plan is carried to a conclusion, in the event of the continued operations of the refineries and the sale of refined products in the industry being carried on at a loss, such loss shall not affect Barnsdall Corp., whose operations will be confined entirely to crude oil. The matter is complicated and needs great study, but has been approved in principle by the executive committee and is being submitted in a detailed way to the board of directors at an early date.

"This statement is issued in justice to the stockholders so that they should know what is being considered."

A.P.I. Production Program for San Antonio Session

The program arranged for the spring meeting of the Southwestern District of the American Petroleum Institute Division of Production to be held in San Antonio, Tex., April 25 and 26, at the Plaza Hotel is spread over two days and includes 10 special papers and addresses.

THURSDAY, APRIL 25

Morning Session—10 A. M.

Presiding—W. T. Doherty, Humble Oil & Refining Co., Houston, Tex.

Opening address—George A. Hill, Jr., president, Houston Oil Co., Houston, Tex.

Address—A. D. Simpson, president, National Bank of Commerce, Houston, Tex.

"Petroleum in Southwest Texas"—Thornton Davis, Simms Oil Co., San Antonio, Tex.

Afternoon Session—2 P. M.

Presiding—W. V. Vietti, Texas Co., Houston, Tex.

"Drilling Barges"—G. I. McBride, Texas Co., Shreveport, La.

"Paraffin Production Problems"—C. E. Reistle, Jr., East Texas Engineering Association, Kilgore, Tex.

"Corrosion: Its Nature and Effect on Selection and Installation of Production Equipment"—W. S. Crake, Shell Petroleum Corp., Houston, Tex.

FRIDAY, APRIL 26

Morning Session—9:30 A. M.

Presiding—Chase Sutton, Pure Oil Co., Houston, Tex.

"Drill Stem"—H. W. Fletcher, Hughes Tool Co., Houston, Tex.

"Blow-Out Prevention and Control"—W. V. Vietti and A. G. Levy, Texas Co., Houston, Tex.

"Progress of Aerial Photography and Development of Photographically Controlled Ownership Maps"—George S. Rice, Jr., Edgar Tobin Aerial Surveys, San Antonio, Tex.

"Benefits and Hazards Affecting the Oil Worker"—H. N. Blakeslee, director, Department of Accident Prevention, A.P.I., Dallas, Tex.

May Refinery Allocations Set by P. & C. Committee

WASHINGTON, D. C., Apr. 15.—Gasoline production quotas for May, by refinery districts, have been set as follows by the Planning and Coordination Committee:

District—	Allowed gasoline production (bbls.)	Required seasonal inventory changes (bbls.)
East Coast	5,810,000	— 548,000
Appalachian	1,636,000	— 18,000
Ind., Ill., Ky.	6,386,000	— 352,000
Okla., Kans., Mo.	4,593,000	— 671,000
Inland Texas	2,092,000	— 48,000
Texas Gulf Coast	6,781,000	— 166,000
East Texas	446,000	— 3,000
La. Gulf Coast	1,251,000	— 17,000
North La., Ark.	657,000	— 3,000
Rocky Mountain	893,000	— 18,000
California	5,313,000	— 336,000
Total	35,858,000	2,180,000

Gasoline production for the country has been set at 36,420,000 bbls., of which total 35,858,000 bbls. has been allocated. One per cent of the national total, or 364,000 bbls., has been reversed by the national co-ordinator for the use of the Refinery Board of Review in granting appeals from decisions of the district allocators, while 198,000 bbls. has been withheld to meet the demands of non-reporting refiners in East Texas.

If the program is carried through by the refiners a reduction of 2,180,000 bbls. in inventories will result. Observers here claim such action will practically assure the industry of a profitable season during the period of high gasoline consumption.

NEWS FROM FOREIGN LANDS

RUMANIA

The desirability of having a world conference to bring about a balance in world supply and demand for petroleum products is stressed in an official statement by C. Osiceanu, managing director of "Steaua Romana" Societe Anonyme Pour L'Industrie Du Petrole. The company is one of the major operators in Rumania with crude oil production, two refineries and marketing facilities.

In his summary of world conditions Mr. Osiceanu points out that there has been an excess of petroleum supplies over consumption for several years and this situation continues so far in 1935 with a certainty that stocks will again be accumulated for the entire year unless some co-operative action is taken to curtail the supply. He said that the trend toward increased supplies applies to most of the principal crude oil producing companies. The results of this situation are readily apparent in prices below the cost of production. In this connection he gives data showing that in 1934 crude oil producers in Rumania produced 8,467,500 tons, a gain of 15 per cent over 1933. Despite this substantial gain in production the amount received for this crude in 1934 was 12 per cent less than in 1933. The products of refineries also showed an increase in volume with a decrease in total value. Oil exports were 10 per cent greater with a decrease of 8.4 per cent in value. To secure this greater crude oil production he explains that it was necessary to increase drilling 54 per cent in 1934.

The situation in Rumania is particularly critical, according to Mr. Osiceanu, due to the high taxes, lack of adequate pipe line transportation facilities and other conditions which tend to increase costs. Efforts have been made over the past year to bring about a reduction in these costs through governmental action but so far nothing has been done. Mr. Osiceanu expressed the opinion that the principal oil interests are in a better position to co-operate in working out a world program than in previous years.

IRAQ

Recent reports from Iraq are to the effect that the pipe line of the Iraq Petroleum Co., Ltd., with terminals at Haifa and Tripoli on the Mediterranean is now operating capacity. The capacity of the line is approximately 85,000 bbls. daily equally divided between the two terminals. Reports earlier in the year indicated that the line would not be operating on capacity basis until early summer. The first oil of the pipe line was run late last summer.

JAPAN

Representatives of American and British oil companies operating in Japan and Manchukuo have failed again according to reports of the past week to secure any changes in the governmental position of these two countries in regard to regulations covering the distribution of petroleum products. The representatives of the companies concerned have been in Japan since the first of the month holding conferences covering regulations which are considered especially burdensome to foreign oil interests.

It is understood that the government representatives have definitely refused to alter the regulation which requires the foreign companies to keep on hand six months stocks of the products sold, in addition to the working stocks required for current operations. The control measure also provides that these stocks can be confiscated by the government in case of national emergency at prices to be determined by the government. To carry out this program will require an expenditure of several million dollars on the part of American and British oil interests who had asked that they be reimbursed for the capital outlay or assured a return on the investment.

Through diplomatic channels Japan has again refused to take any action as to the plans which have been completed to establish an oil monopoly in Manchukuo. The government in an official note to United States and Great Britain which has protested the monopoly as a violation of the "open door" policy takes the position that Manchukuo is an independent country, for whose actions it cannot be held responsible. The monopoly threatens to drive out American and British oil interests giving preference to sources of supply controlled by Japanese capital.

GREAT BRITAIN

Herbert Green & Co., Ltd., a new company organized last year in England for the purpose of building and operating a lubricating oil refinery has obtained a license from the Texaco Development Corp. covering the installation of an acetone-benzol plant for dewaxing. At this time the company is also installing a plant for the solvent extraction of lubricating oils.

The dewaxing plant will be operated in connection with the extraction plant. The latter plant is Duo-Sol type licensed by Max B. Miller & Co. of New York, U.S.A. This plant which is approximately 50 per cent completed will have a capacity of 1,000 bbls. daily. According to present plans, suitable topped crude oils will be imported and these will furnish the charging stocks for the Duo-Sol operation. The dewaxing operations will be carried on with the acetone-benzol method. One of the principal products of the operation will be a high grade bright stock of low viscosity and low carbon residue.

Several of the Duo-Sol plants are in operation or under construction in United States. Units of the acetone-benzol method of dewaxing are in operation at the Lawrenceville, Ill., refinery of the Indian Refining Co., and Philadelphia, Pa., refinery of the Atlantic Refining Co.

The new plant of Herbert Green & Co., Ltd., is located at East Halton, Lincolnshire. It is expected that the Duo-Sol plant will be in operation within the next three or four months. The dewaxing plant will be completed later.

The following government report shows the c.i.f. declared value of petrol (gasoline) imported into the United Kingdom during February from all sources: (values are in pence per imperial gallon)

	February	
	1935	1934
Netherland West Indies	3.07	3.39
Iraq	3.32	3.47
United States	3.22	3.79
Rumania	2.93	3.47
Mexico	3.21	3.46
U.S.S.R.	3.25	3.48
Netherland East Indies	4.85	3.78
Trinidad	5.50	5.50
Average	3.23	3.55

This table shows that prices on imported gasoline were lower in February of this year except Netherland East Indies and Trinidad with an average reduction of .32 pence per gallon.

VENEZUELA

Crude oil production in Venezuela in March averaged 371,900 bbls. daily. This is an increase of 20,000 bbls. daily over the average for March, 1934, but less than the daily average in February and January of this year. The crude oil production in January averaged 405,156 bbls. daily which was near the peak production. The decline since January is due largely to the reductions in Lake Maracaibo fields by one company. This company, it is said, has made this reduction due to a shifting in marketing conditions in which it has temporarily lost part of the market which it had earlier in the year. One report states that this situation was brought about by the increasing production of Iraq crude oil.

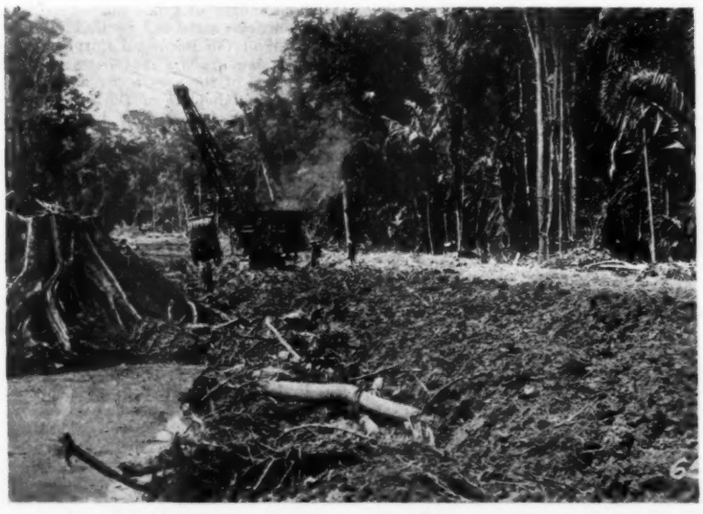
The bulk of the Venezuelan crude oil production is sold either as crude or refinery products from Dutch West Indies refineries, in European markets where it comes in direct competition with the Iraq crude supply, deliveries of which started last fall and now total approximately 85,000 bbls. daily. It has been anticipated for some time that the advent of Iraq crude oil would bring about changes in European supplies. Through its owners the Iraq crude is assured outlets in line with the present capacity of the pipe line delivery system which means that the downward adjustments will have to come from other countries. The Venezuelan crude occupies a strong position from the standpoint of costs and it is assumed that operators can maintain their position on a price basis if they decide to use that method. It is also pointed out that the demand for petroleum products in most European markets is increasing which will tend to absorb the increased supply from Iraq.

The principal reduction in crude oil production since January has come from the Lagunillas and the Quiriquire fields. The Lagunillas total in January was 7,043,637 bbls. and the Quiriquire total 1,491,592 bbls. The decline in these two fields in March exceeded 900,000 bbls. when compared with January totals. Among the companies the decrease of Lago Petroleum Corp. in March compared to January amounted to approximately 700,000 bbls. There were minor increases in several fields with a substantial gain in the production of the Venezuelan Gulf Oil Co.

Field reports show an increasing number of wells being placed on the pump especially in the Lake Maracaibo region. Some wells are also being changed to the gas lift. There are a half dozen important wildcat operations underway in eastern Venezuela with no important developments reported during the past month. The following table summarizes the production by fields and companies for March, 1935, and March, 1934:

VENEZUELAN CRUDE OIL PRODUCTION

	March	
Fields—	1935	1934
Lagunillas	6,265,149	5,619,400
La Rosa-Ambrosia	1,825,371	1,940,360
Mene Grande	1,380,500	1,257,140
Quiriquire	1,356,173	980,800
Tarra	432,880	567,260
Cumarebo	246,083	359,530
Concepcion	125,500	162,750
El Mene	80,300	91,030
La Paz	16,930	21,700
Total	11,728,891	10,900,020
March, dly. av.	371,900	351,620
February	390,020	348,900
January	405,156	350,270
First quarter	391,214	350,330
Companies—		
Lago Pet. Corp.	3,475,347	3,371,550
Venezuela Oil Concessions, Ltd.	2,960,630	2,788,450
Creole Pet. Corp.	2,004,234	1,600,800
Venezuelan Gulf Oil Corp.	1,395,000	1,223,780
Caribbean Pet. Co.	1,380,500	1,257,140
Colon Oil Corp.	432,880	567,270
British Controlled Oilfields, Ltd.	80,300	91,030
Total	11,728,891	10,900,020



Making a fill for roadway through swamp in jungle country connecting to wildcat well in eastern Venezuela

MANCHUKUO

Greater business activity has resulted in a substantial increase in the demand for petroleum products in Manchukuo. While diplomats and oil interests have endeavored to iron out difficulties in connection with the recognition of that country among the powers and oil interests have attempted to prevent a government monopoly from becoming effective, more cars and other motor vehicles have been purchased and the demand for motor fuel has increased. It is estimated that the present demand is approximately 2,000 bbls. daily, a gain of 100 per cent over the requirements of two years ago. The kerosene demand is only slightly less than the gasoline consumption.

Dubbs Unlimited

A cracking unit that will run only selected charging stocks is like a bridge that reaches only halfway across the river—it may be all right as far as it goes

There is no limit to the range of a Dubbs cracking unit It doesn't need special stocks

But it does make special, long mileage gasoline from any charging stock and at lowest cost, royalty and all

And the by-products add to your earnings instead of pulling them down

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Overenthusiasm Seen as Containing Elements of Danger to Motor Fuel Market in Group 3

By T. F. SMILEY

Overenthusiasm concerning the recent behavior of the gasoline market in the Oklahoma (Group 3) area and its probable course in coming months was regarded by some observers this week as containing elements of danger. The steadily increasing firmness of motor fuel and the rising tank car prices recorded in the last two months have been of a healthy character. No artificial stimulants have been employed. There has been a businesslike oversight which, through inter-refinery buying, has prevented excessive stocks from accumulating anywhere in the Mid-Continent territory.

Warnings from Market History

Even now, it was said, no conditions of clearly unfavorable portent are apparent, but the history of other rising markets carries warnings which should not be ignored. The satisfactory state of the gasoline trade is ascribed generally to the spirit of co-operation between integrated and nonintegrated companies which has made support buying and prevention of surplus stocks possible.

A point has been reached, however, when seasoned observers are keeping an eye out for tactics calculated to promote personal advantage at the expense of the common good. Such tactics, it was suggested, might include holding stocks out of the market for the double purpose of increasing scarcity and of getting still higher prices than those obtainable at the moment. They would include too the starting up of unneeded plants to seize the benefit of attractive prices.

In view of the fact that a month or so remains before the season of heavy gasoline consumption will begin it would be quite possible to damage the market which rational business policies have built up. One way to do it would be for refiners here and there to hold material for higher prices and then—all selecting about the same time to unload—dump it. Another would be for a large number of refineries to start or closed ones to resume operations, adding more motor fuel to the supply than demand can absorb even under a skilfully managed stabilization plan.

Refined Oil Market Barometer

Increasing firmness of the gasoline market recorded except in California, where weakness accompanies renewal of price cutting. Dust storms have acted as a blight on retail markets in parts of the Middle West and the Southwest, and cold weather has retarded motoring, but these have not been sufficient to affect seriously a good undertone.

Mid-Continent.—Gasoline strong. Naturals firm. Kerosene steady.

East Coast.—Gasoline up, but irregular. Kerosene and furnace oil weak. Complaints of "chiseling" heard.

Gulf Coast.—Gasoline up. Kerosene tighter. Fuels, lubs steady.

Pennsylvania.—General tone improved. Gasoline and bright stock firmer.

California.—Market spotty. Gasoline and kerosene weak.

Chicago.—Gasoline strong. Kerosene firm. Heavy products quiet.

Scurrying to Get Under Wire

Jobber buying, which has lagged in recent months, showed signs of life in the last week, spurred by the revised freight rates going into effect April 18. Shipment before that date meant a saving of about $5 a car. Many contract buyers gave instructions in order to make this saving, and there was much scurrying around for material at the last moment.

It is estimated that about 1,200 cars of surplus gasoline produced by small independent refineries in the Mid-Continent territory have been absorbed by large integrated companies since the "big brother" idea was put into operation early in March. This is less than it had been supposed would have to be taken care of. In some cases the independent refinery not only has had no excess inventories to be relieved of, but has been unable to deliver gasoline really needed by its "big brother," all its output having been disposed of through its regular sales channels. The estimate of inter-refinery transactions referred to here excludes East Texas, which is working out its own stabilization problems.

Passage by the Texas House of Representatives Monday of this week of a bill designed to stop trucking of illegal gasoline out of East Texas cheered all except hot-oil operators. In the neighborhood of 10,000 to 12,000 bbls. of gasoline are reported moved out of East Texas daily to consuming points inside the state. Perhaps one-fifth is covered by state tenders. Legitimate producers and refiners express their determination not to permit the illicit product, small in its relation to the total, but constituting a demoralizing factor in the retail market, to keep up its defiance of law.

The action of the Standard Oil Co. (Indiana) in advancing tank wagon and service station prices three-eighths cent a gallon throughout its territory had a favorable reaction on sentiment in the Group 3 territory.

Consumption of motor fuel and lubricating oils has been adversely affected in some Group 3 marketing areas by terrific dust storms and by prolonged cold weather.

Natural Gasoline Still Climbing

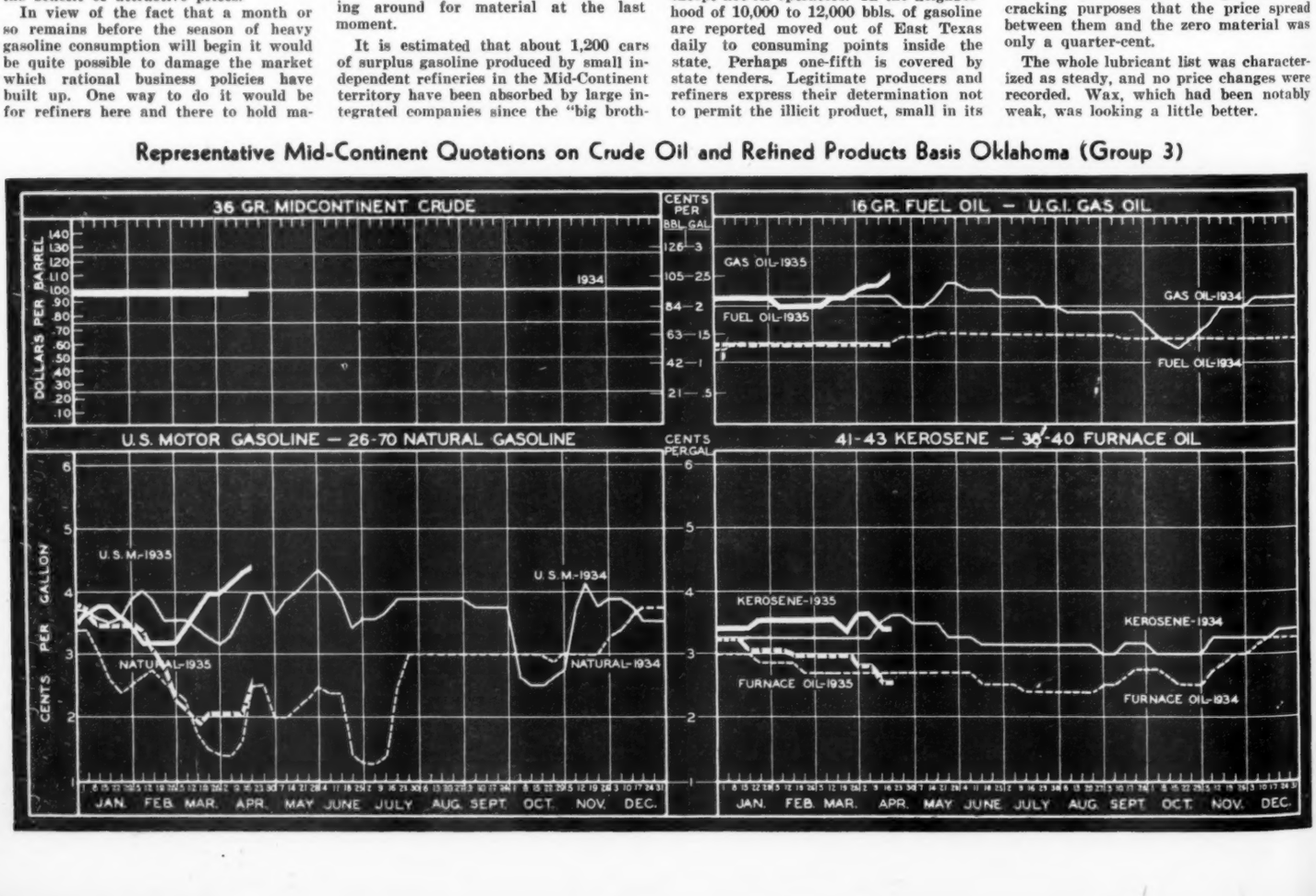
Natural gasoline continued to climb, with the market firm. Spot business was negligible. Manufacturers were making no effort to sell, indicating willingness to store their material for fall business rather than to sell at current quotations, notwithstanding these were about a quarter-cent higher than those offered a week ago.

Kerosene was steady, but the market lacked spirit. Prime white distillate was scarce, presumably because of the prolonged cold weather, and there was a scramble for such scattered stocks as were uncovered. There was no reason for supposing this unseasonable brisk market would last long.

Gas oil for cracking stock was up and hard to get. Owing to the vigorous gasoline market, refiners possessing cracking plants are keeping them busy, thus using gas oil which formerly they were glad to sell. So scarce were the gas oils for cracking purposes that the price spread between them and the zero material was only a quarter-cent.

The whole lubricant list was characterized as steady, and no price changes were recorded. Wax, which had been notably weak, was looking a little better.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



Trend of Gasoline Quotations Upward in East; Additional Increases Expected During Month

By C. O. WILLSON
New York Bureau, The Oil and Gas Journal

NEW YORK, Apr. 15.—The trend in gasoline quotations in the eastern part of the United States has been upward over the past week with most observers predicting additional increases before the end of the month. The advances in tank car prices which became effective last week included a one-fourth cent increase in quotations at most seaboard points in New York and New England. This followed a similar increase at New Jersey refineries for New Jersey delivery.

In the retail end, the one-fourth cent advance in tank car quotations was followed by a .3 cent increase in service station and posted dealer prices at most points in New York and New England. In western New York state where retail prices have been exceptionally low, the advances were as much as 4.7 cents per gallon. In the Standard of New Jersey marketing territory which includes North Carolina, South Carolina, West Virginia, Virginia, Maryland, New Jersey and the District of Columbia, the company made adjustments in most of its posted gasoline prices. The changes in the case of service station prices varied from a .2 cent decrease at some points in Virginia to increases of more than 2 cents at a few subnormal points. The increases in most cases were between one-half to 1 cent per gallon.

The new prices for tank car delivery at New York are: Low octane U. S. Motor, 5½ cents; middle octane, 5¾ cents; 65 octane and above, 6 cents, and branded regular (ethylized), 6¼ cents.

The refined market generally in this territory was quiet so far as current trading was concerned. Kerosene, furnace oil and some of the other grades of fuels can still be listed as weak although the large sellers have not reduced their posted quotations. With substantially lower prices than prevailed a few weeks ago there has been some improvement in the domestic and foreign inquiries for wax. Observers, however, are not certain that the bottom has been reached in this market despite the fact that crude scale has been sold at 2 cents or less. Very little new business is reported in the paraffin base neutrals and cylinder stocks but no important changes in prices.

Despite the advances in the gasoline market this product is a long way from satisfactory levels in this territory. The advance of .3 cent of the Socony-Vacuum Oil Co., Inc., previously explained, which was followed by other companies, came as a surprise to the trade which had anticipated an increase of 1 cent or more in service station prices. The latter prices are from 2 to 3 cents below normal even with the extreme conditions in western New York eliminated. The fact that the increase in service stations and posted dealer prices was only slightly more than the one-fourth cent increase in tank car quotations so far as most of New York and New England was concerned, was taken to mean that the major factors did not consider retail marketing conditions in a condition which would justify a return to schedules with a normal spread of 5.5 cents or more between the delivered tank car and service station prices. For example, the margin in metropolitan New York on the regular ethylized grades is 4 to 4.55 cents.

It is claimed there is considerable "chiseling" of one kind or another in tank wagon and service station markets to the point where one sales manager says that posted prices "have little significance." By that is meant that where there is a substantial volume of business involved from a jobber, dealer or final consumer the sellers have been giving whatever concessions are necessary to get the business.

Sellers in this territory have been encouraged by the advances in Gulf Coast gasoline quotations in recent weeks. Trading has been dull since the higher prices were established and observers here have feared they would not be maintained. There is the additional fact questions are arising which have market significance in regard to the future policy of the oil administration at Washington. The code, so far as this territory is concerned, appears to have broken down completely so far as being a means or a guide in working out unsatisfactory marketing conditions is concerned.

Demand for Furnace Oils

While furnace oil prices have reflected a policy on the part of a few sellers in dumping their excess supplies with the end of the 1934-1935 consuming season, those familiar with conditions are generally optimistic regarding probable developments over the next few months. Reports from burner oil manufacturers are invariably optimistic as to 1935 business. Reports for the first quarter show a gain of 30 per cent over the same period in 1934. Predictions as high as 150,000 installations for 1935 are heard among those familiar with trade conditions.

Oil burners during the past three years have been greatly improved, prices reduced with a better tie-in with oil distributors so that the burner service is more attractive from the standpoint of the consumer. For several years it has been predicted that once the oil burner industry could establish itself on a sound business basis that expansion would be rapid. It is agreed that the possible market has only been touched and that new business ranging from 200,000 or 400,000 units yearly would not be an unreasonable expectation with a return to normal buying conditions. In addition, the market for smaller heating units using range oil, kerosene or heavier fuel is increasing rapidly. These are the units commonly used for cooking or heating on a limited scale.

If these predictions prove true, the refiners and distributors of furnace oils can look forward to another substantial increase in business for the season starting next fall. This phase of the oil business is also in need of more stabilized and higher prices and a greater demand will aid in bringing this about.

Tax Danger

The greatest danger to the market at this time is the proposal in the form of a bill at Washington to tax fuel oils one-half cent a gallon. This bill which is said to have the backing of the coal interests is being widely discussed in marketing circles. Unlike gasoline, all grades of fuel oil, have the competition of other fuels, of which coal is the most important. This fuel oil market could easily be taxed out of existence through the action of the federal and state governments and a half-cent tax at this time would in itself eliminate oil from many market outlets.

The larger refiners continue to quote No. 1 furnace oil at 5 to 5¼ cents with 4¼ cents for the other three grades. Prices one-fourth cent less for barge shipments. The three lower grades have been sold as low as 3¾ and 3⅞ cents. The No. 5 is quoted at $1.35 per barrel and No. 6 $1.15 per barrel in tank car lots.

The demand for 27 plus gas oils is fair at 4 to 4¼ cents. Diesel fuels are quoted at 4¼ cents in tank cars. Heavy industrial fuel oil is quoted at 3¾ to 4 cents.

To the marine trade there is a seasonal increase in the demand for Bunker C fuel at $1.15. The demand for Diesel fuels is increasing. It is said that the greater use of Diesel power in the marine trade has taken some of the market for the residual fuels used in the generation of steam power.

Lubricants

Recent purchases of blending stocks among the lubricating oils substantiates the predictions that the coming summer would witness the use of lighter viscosity oils for motor oils. Several car manufacturers are recommending nothing heavier than S.A.E. 30 for summer use. At least one large manufacturer and distributor of motor oils has outlined a summer campaign for the lighter oils for both the regular and premium grades. This apparently will mean a lessened demand for the summer oils meeting S.A.E. 40 and 50 requirements. The high viscosity bright stocks coming from Pennsylvania and Mid-Continent crudes do not fit into this picture and there has been a shift in demand for the lighter grades.

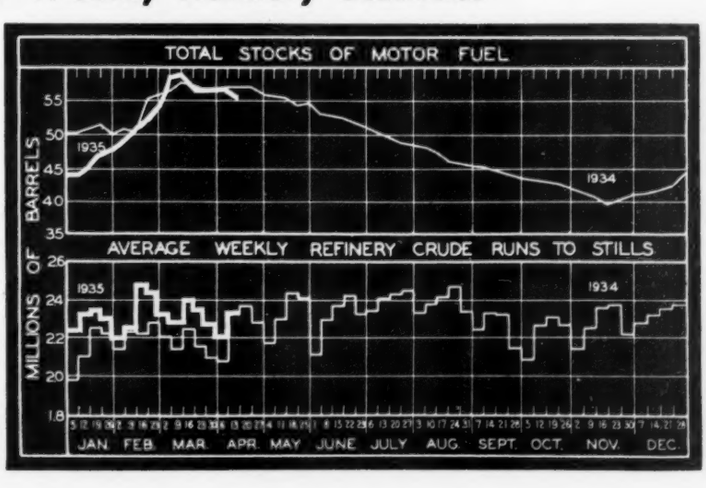
The competition for the coming summer will of course not be confined to viscosity. High viscosity index, low carbon residue, resistance to sludging and other properties are being stressed. In this connection it is known that sales are being made in certain solvent refined stocks and oils based on specifications not obtainable in the grades commonly quoted in markets.

There were no important changes in prices for lubricants in this market over the past week. The 200-3 color Pennsylvania is quoted for export at 30 cents in barrels and around 24 cents in bulk. The bulk prices on Pennsylvania bright stocks range from 15 to 16 cents per gallon. The demand for these oils continues slow. Prices on most grades of refined and crude scale wax are unchanged from last week.

American Petroleum Institute Weekly Refinery Statistics

Week Ending April 13, 1935

	Capacity reporting per cent	Daily crude runs (bbls.)	Finished motor fuel (bbls.)	Gas oil and fuel oil (bbls.)
East Coast	100.0	457,000	17,785,000	9,722,000
Appalachian	93.3	110,000	1,945,000	822,000
Indiana, Illinois, Kentucky	94.6	347,000	9,712,000	4,271,000
Oklahoma, Kansas, Missouri	83.7	271,000	5,510,000	3,934,000
Inland Texas	47.6	98,000	1,369,000	1,764,000
Texas Gulf	97.7	480,000	6,595,000	9,114,000
Louisiana Gulf	96.4	99,000	1,484,000	3,293,000
North Louisiana and Arkansas	83.7	43,000	221,000	330,000
Rocky Mountain	66.7	41,000	1,012,000	770,000
California	96.9	409,000	10,475,000	64,311,000
Total United States	89.8	2,355,000	56,108,000	98,331,000



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasolines

OKLAHOMA (Group 3)—	Apr. 16		Apr. 9	
U. S. Motor grades:				
Below 63 octane	.04⅜	.04½	.04¼	.04⅜
63-70 octane	.05⅛	.05⅜	.05	.05¼
60-62 400 grade:				
Below 63 octane	.04⅜	.04½	.04¼	.04⅜
63-70 octane	.05⅛	.05⅜	.05	.05¼
64-66 375	.04½	.04⅝	.04½	.04⅝
68-70 360	.04⅝	.04¾	.04⅝	.04¾
NORTH TEXAS—				
U. S. Motor grades:				
Below 63 octane	.04⅜	.04¾	.04⅜	.04¾
63-70 octane	.05	.05¼	.05	.05¼
60-62 400	.04¾	.04⅝	.04½	
64-66 375	.04½	.04⅝	.04½	.04⅝
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04⅞	.05	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05½	.05¾
60-62 400	.04⅞	.05	.04¾	.04⅞
ARKANSAS (Ark., N. La. & Miss. del.)—				
U. S. Motor grades:				
Below 63 octane	.04⅞	.05	.04¾	.04⅞
63-70 octane	.05⅝	.05¾	.05½	.05¾
CHICAGO (based on Oklahoma Group 3)—				
U. S. Motor grades:				
Below 63 octane	.04⅜	.04½	.04¼	.04½
63-70 octane	.05⅛	.05¼	.05	.05¼
60-62 400	.04⅜	.04½	.04¼	.04½
64-66 375	.04½	.04⅝	.04⅜	.04½
68-70 360	.04⅝	.04¾	.04½	.04⅝
Aviation fighting grade	.05¼	.05⅜	.05	.05⅛
PENNSYLVANIA (inland refineries)—				
58-60 U. S. Motor:				
Below 60 octane	.05	.05⅛	.05⅛	
60-64.9	.06¼		.06¼	
65-70 octane	.06½		.06½	
68-70 350	.05⅞		.05⅞	
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.06	.07½	.06	.07½
58-60 400	.08	.09	.08	.09
EAST COAST—				
U. S. Motor, below 60 octane:				
*New York (Bayonne)	.05½		.05¼	
Baltimore	.05½	.05¾	.05½	
U. S. Motor, 60-64.9 octane:				
*New York (Bayonne)	.05¾		.05½	
Philadelphia	.05¾	.06	.05¾	.06
Boston	.05¾		.05½	.05¾
Baltimore	.05¾		.05½	.05¾
Charleston, S. C.	.05¾		.05½	.05¾
U. S. Motor, 65 and above:				
*New York (Bayonne)	.05¾		.05¾	
Philadelphia	.06	.06¼	.06	.06¼
Boston	.05¾	.06	.05¾	.06
Baltimore	.05¾	.06	.05¾	.06
Charleston, S. C.	.05¾	.06	.05¾	.06

*All grades of gasoline one-fourth cent less for small barge shipments.

GULF COAST (domestic)—				
U. S. Motor:				
Below 60 octane	.05¼		.05⅛	.05¼
60-64.9 octane	.05¼	.05½	.05¼	.05⅜
65 octane and higher	.05½		.05⅜	.05½

Naphthas

PENNSYLVANIA (inland refineries)—	Apr. 16		Apr. 9	
50-52 (blending)	.04⅞	.05	.04⅞	.05
52-54 450 (blending)	.04⅞	.05	.04⅞	.05
54-56 450 (blending)	.04⅞	.05	.04⅞	.05
50-52 450 (blending)	.04⅞	.05	.04⅞	.05
CHICAGO (based on Oklahoma Group 3)—				
50-52 450 (blending)	.04¼	.04½	.04¼	.04½
Cleaners' naphtha, 56-58 gr., 200 i.b.p., 320 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 180 i.b.p., 250 e.p.	.07¾	.08	.07¾	.08
Lacquer diluent, 140 i.b.p., 200 e.p.	.08¾	.09	.08¾	.09
Rubber solvent, 68-70 gr., 100 i.b.p., 300 e.p.	.06¾	.07	.06¾	.07
Stoddard solvent, 300 i.b.p., 410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
Pet. thinner, 290-300 i.b.p., 410 e.p., over 83° flash	.06¼	.06½	.06¼	.06½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p., 330 e.p.	.06¾	.07	.06¾	.07
Petroleum spirits	.05¾	.06	.05¾	.06

Natural Gasolines

OKLAHOMA (Group 3)—	Apr. 16		Apr. 9	
Grade 26-70	.02½	.02¾	.02¼	.02½
Grade 18-55	.03¼	.03½	.03⅛	.03¼
Low vapor pressure grades:				
14 lb. v.p. (max.)	.03¾	.04	.03½	.03⅝
12 lb. v.p. (max.)	.04¼	.04½	.04	.04¼
NORTH TEXAS—				
Grade 26-70	.02¼	.02⅜	.02	.02¼
Grade 18-55	.03⅛	.03¼	.03	.03⅛
Low vapor pressure grades:				
*14 lb. v.p. (max.)	.03⅝	.03¾	.03⅜	.03½
*12 lb. v.p. (max.)	.04⅛	.04¼	.03⅞	.04

*Nominal.

NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
Grade 26-70	.02⅝		.02⅜	
CALIFORNIA—				
75-85 375	.05	.06	.05	.06

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Apr. 16		Apr. 9	
41-43	.03½	.03⅝	.03½	.03⅝
42-44	.03⅝	.03¾	.03⅜	.03¾
NORTH TEXAS—				
40-41	.03⅜	.03½	.03⅜	.03½
41-43	.03½	.03⅝	.03⅜	.03¾
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
41-43	.03¾		.03¾	
ARKANSAS (Ark., N. La. & Miss. del.)—				
41-43	.03⅞		.03⅞	
PENNSYLVANIA (inland refineries)—				
45	.04¾	.04⅞	.04¾	.04⅞
46	.04⅞	.05	.04⅞	.05
47	.05	.05⅛	.05	.05⅛
CHICAGO (based on Oklahoma Group 3)—				
41-43	.03½	.03⅝	.03½	.03⅝
42-44	.03¾	.03⅞	.03⅝	.03⅞
CALIFORNIA (Pacific Coast consumption)—				
38-40 high burning test	.04½	.05	.04½	.05
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼		.05¼	
GULF COAST (domestic)—				
41-43	.04	.04¼	.04	.04¼

Petroleum Coke

(Prices per ton f.o.b. refineries in Chicago area)
(Refineries will absorb freight to 80 cents a ton)

	Apr. 16	Apr. 9
Pile run	6.00	6.00
Direct from still	7.00	.700
Egg, nut, pea	8.50	8.50
Lump	8.50	8.50

Furnace Oils and Tractor Fuels

(Zero cold test under 190° flash and good odor)

OKLAHOMA (Group 3)—	Apr. 16		Apr. 9	
32-36 straw	.02⅝	.02¾	.02⅝	.02¾
36-38 straw	.02¾	.02⅞	.02¾	.02⅞
38-40 straw	.02⅝	.02¾	.02⅝	.02¾
38-40 prime white	.03	.03⅛	.03	.03⅛
NORTH TEXAS—				
38-40 straw	.02⅞	.03	.02⅞	.03
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
36-40 furnace oil	.02¾	.02⅞	.02¾	.02⅞
ARKANSAS (Ark., N. La. & Miss. del.)—				
32-36 furnace oil	.02¾	.02⅞	.02¾	.02⅞
CHICAGO (based on Oklahoma Group 3)—				
32-36 straw	.02¾	.03	.02⅞	.03
38-40 straw	.02⅞	.03	.02⅞	.03⅛
38-40 prime white	.03⅛	.03¼	.03⅛	.03¼
NEW YORK (Bayonne, N. J.)—				
No. 1	.05	.05¼	.05¼	
No. 2	.04	.04¼	.04¼	
No. 4	.04	.04¼	.04¼	

Gas Oil, Diesel Oil and Fuel Oil

(Gas oil per gal., Diesel and fuel oils per bbl.)

OKLAHOMA (Group 3)—	Apr. 16		Apr. 9	
32-36 gas oil, cracking stock	.02½	.02⅝	.02¼	.02½
U.G.I. gas oil	.02½	.02⅝	.02⅜	.02⅝
32-36, zero to 15 gas oil	.02⅝	.02¾	.02⅝	.02¾
28-30, No. 3 burner oil	1.02½	1.07½	1.02½	1.07½
26-30, zero to 10 fuel oil	.92½	.97½	.92½	.97½
24-26 fuel oil	.75	.77½	.75	.77½
20-22 fuel oil	.70	.75	.70	.75
Below 16 fuel oil	.60	.62½	.60	.62½
NORTH TEXAS—				
32-36 gas oil, industrial	.02½	.02⅝	.02⅜	.02½
22-26 fuel oil	.65	.67½	.65	.67½
Below 20 fuel oil	.60	.62½	.60	.62½
NORTH LOUISIANA (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02¾	.02⅞	.02¾	.02⅞
14-16 fuel oil	.70	.75	.70	.75
ARKANSAS (Ark., N. La. & Miss. del.)—				
30-32 gas oil, zero	.02¾	.02⅞	.02¾	.02⅞
32-36 gas oil	.02¾	.02⅞	.02¾	.02⅞
14-16 fuel oil	.65	.70	.65	.70
CHICAGO (based on Oklahoma Group 3)—				
32-36 gas oil, industrial	.02⅜	.02½	.02⅜	.02½
28-30 zero to 10, fuel oil	1.05	1.10	1.05	1.10
26-28 zero to 10, fuel oil	.95	1.00	.95	1.00
22-26 zero to 10, fuel oil	.82½	.87½	.82½	.87½
18-22 zero to 10, fuel oil	.67½	.70	.67½	.70
Below 18 fuel oil	.57½	.62½	.57½	.62½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel in all these areas.

PENNSYLVANIA (inland refineries)—			
30-40	.04		.04⅛
CALIFORNIA—			
Los Angeles:			
30-34 gas oil, per bbl.	1.15	1.25	1.15 1.25
27 plus Diesel	1.15	1.25	1.15 1.25
27 plus Diesel (bunkers)	1.20	1.30	1.20 1.30
12-16 (bunkers at tidewater)	.82½	.90	.82½ .90
10-16 (cargo lots)	.70	.80	.70 .80
12-17 (tank cars)	.62½	.85	.62½ .85
San Joaquin Valley:			
10-18 (tank cars)	.60	.75	.60 .75
San Francisco:			
27 plus Diesel, per bbl.	1.15	1.25	1.15 1.25
27 plus Diesel (bunkers)	1.20	1.30	1.20 1.30
10-16 (bunkers)	.90		.90
GULF COAST—			
28-30 gas oil	.03½	.03⅝	.03½ .03⅝
28-30 Diesel (bunkers)	1.70		1.70
Bunker C (bulk cargoes)	.85	.90	.85 .90
Bunker C (bunkers)	.95	1.00	.95 1.00
NEW YORK (Bayonne, N. J.)—			
27 plus, gas oil	.04	.04¼	.04¼
28-30 Diesel (lighterage 6½ cents per bbl.)	1.89		1.89
28-30 Diesel (tank cars)	.04¼		.04¼
*Bunker C (to ocean-going ships in N. Y. harbor)	1.15		1.15
Industrial fuel (tank cars)	.03¾	.04	.04

*Lighterage charge 5 cents per barrel additional.

Neutral Oils

(Vis. at 100° F. except Pennsylvania, and color N.P.A.)

OKLAHOMA (Group 3)— Apr. 16 Apr. 9		
Zero to 10 Cold Test:		
150-3	.10	.10
180-3	.11¼	.11¼
180-4	.10¾	.10¾
200-3	.11¾	.11¾
200-4	.11¼	.11¼
240-3	.13¾	.13¾
240-4	.13¼	.13¼
280-3	.14¾	.14¾
280-4	.14	.14
300-3½	.15¼	.15¼
400-4	.17¼	.17¼
100-2 paraffin oil	.05¾	.05¾
15-20 Cold Test:		
200-3	.10¾	.10¾
200-4	.10¼	.10¼
240-3	.12¾	.12¾
240-4	.12¼	.12¼
280-3	.13¾	.13¾
280-4	.13	.13

GULF COAST—				
Pale Oils:				
200-3	.07	.07½	.07	.07½
300-3	.07½	.08	.07½	.08
500-3½	.08½	.09	.08½	.09
750-3½	.09	.09¼	.09	.09¼
1,200-3½	.09½	.09¾	.09½	.09¾
2,000-4	.09¾	.10	.09¾	.10
Red Oils:				
200-5-6	.07	.07¼	.07	.07¼
300-5-6	.07¼	.07½	.07¼	.07½
500-5-6	.08	.08½	.08	.08½
750	.08½	.09	.08½	.09
1,200-5-6	.09¼	.09½	.09¼	.09½

CALIFORNIA (moving to domestic market)—				
Pale Oils:				
100-2½-3	.08	.08½	.08	.08½
200-2½-3	.12½	.13½	.12½	.13½
300-3-3½	.12½	.13½	.12½	.13½
350-3-4	.12½	.13½	.12½	.13½
400-3-4	.12½	.13½	.12½	.13½
450-3-4	.12½	.13½	.12½	.13½
550-3-4	.12½	.13½	.12½	.13½
600-3-4	.12½	.13½	.12½	.13½
Red Oils:				
200-4-5	.12½	.13½	.12½	.13½
300-5-6	.12½	.13½	.12½	.13½
350-5-6	.12½	.13½	.12½	.13½
400-5-6	.12½	.13½	.12½	.13½

450-5-6	.12½	.13½	.12½	.13½
500-5-6	.12½	.13½	.12½	.13½
600-5-6½	.12½	.13½	.12½	.13½
700-6½ plus	.12½	.13½	.12½	.13½
750-6½ plus	.12½	.13½	.12½	.13½
900-6½ plus	.12½	.13½	.12½	.13½
PENNSYLVANIA—				
150 vis. at 70° F., 3 color, 400-405 flash:				
Zero pour test	.20½	.21	.20½	.21
10 pour test	.19½	.20	.19½	.20
15 pour test	.19	.19½	.19	.19½
25 pour test	.18	.18½	.18	.18½
180 vis. at 70° F., 3 color:				
25 pour test	.21	.21½	.21	.21½
200 vis. at 70° F., 3 color:				
Zero pour test	.25½	.26	.25½	.26
10 pour test	.24½	.25	.24½	.25
15 pour test	.24	.24½	.24	.24½
25 pour test	.23	.23½	.23	.23½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Apr. 16	Apr. 9
Bright Stocks:		
190-200 D	.17	.17
150-160 D, 0-10	.14	.14
150-160 D, 10-25	.13½	.13½
150-160 24-40	.13	.13
150-160 E	.13	.13
Steam refined:		
630 light green (treated)	.07½ .08	.07½ .08
600 light green (untreated)	.06 .08	.06 .08
600 dark green (untreated)	.04½ .07	.04½ .07
PENNSYLVANIA—		
Bright Stocks (Pennsylvania grade, No. 8 color, 145-50 at 210; 540-550 flash):		
10 pour test	.18½ .19	.18½ .19
15 pour test	.17½ .18	.17½ .18
20 pour test	.16½ .17	.16½ .17
25 pour test	.15½ .16	.15½ .16
Steam refined:		
600	.07½ .08	.07½ .08
650	.10 .10½	.10 .10½
600 Pennsylvania flash	.11½ .12	.11½ .12
630 flash	.16 .16½	.16 .16½
600 Warren E filtered	.12 .12½	.12 .12½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Apr. 16	Apr. 9
124-126 white crude scale	.02 .02¼	.02 .02¼
PENNSYLVANIA (inland refineries)—		
122-124	.0210 .0215	.0210 .0215
124-126	.0215 .0220	.0215 .0220
NEW YORK—		
Wax (a.m.p.) in bags fully refined:		
Refined grades:		
123-125	.0380	.0380
125-127	.0400	.0400
128-130	.0425	.0425
130-132	.0440	.0440
133-135	.0500	.0500
135-137	.0525	.0525
Crude scale:		
124-126 w.s.	.0200 .0225	.0200 .0225
124-126 y.s.	.0190 .0210	.0190 .0210
Petroleum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02⅞ .03	.02⅞ .03
Extra amber	.03 .03⅛	.03 .03⅛
Lily white	.06⅝ .06¾	.06⅝ .06¾
Snow white	.07¾ .07⅞	.07¾ .07⅞
Cream	.05⅝ .05¾	.05⅝ .05¾
CHICAGO (based on Oklahoma Group 3)—		
122-124 wax	.0440 .0450	.0440 .0450
125-127 wax	.0465 .0475	.0465 .0475
127-129 wax	.0480 .0490	.0480 .0490
130-132 wax	.0540 .0550	.0540 .0550
132-134 wax	.0565 .0575	.0565 .0575

*Cents per pound on carload lots in burlap bags of 225 lbs. approx. Add 3° F. a.m.p.

Export Prices

GASOLINE

GULF COAST—	Apr. 16	Apr. 9
U. S. Motor	.04½ .04⅝	.04½ .04⅝
60-62 400	.04⅝ .04¾	.04⅝ .04¾
61-63 390	.04¾	.04¾
64-66 375	.04⅞ .05	.04⅞ .05
LOS ANGELES:		
U. S. Motor grades:		
53-55 octane	.04 .04¼	.04 .04¼
55-65 octane	.04¼	.04¼
65-67 octane	.04¼ .04½	.04¼ .04½
67-69 octane	.04½ .04¾	.04½ .04¾
Above 69 octane	.04¾ .05¼	.04¾ .05¼
58-60 400 endpoint	.04½ .05	.04½ .05

KEROSENE

GULF COAST—		
41-43 prime white	.03⅞ .04	.03⅞ .04
41-43 water white	.04 .04¼	.04 .04¼
44 water white	.04¼	.04¼
LOS ANGELES:		
41-43 water white	.04¼ .04¾	.04¼ .04¾

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—		
Cylinder Stocks:		
600 Warren E	.18½ .19	.18½ .19
600 S.R. unfiltered	.14 .14½	.14 .14½
650 S.R. unfiltered	.15½ .16	.15½ .16
600 flash S.R.	.16½ .17	.16½ .17
630 flash S.R.	.20½ .21	.20½ .21
Bright Stocks:		
8 color	.21½ .22	.21½ .22
6½ plus colors in dilution	.20½ .21	.20½ .21

NEUTRAL OILS

200-3 color	.30 .32	.30 .32
150-3 color	.25 .27	.25 .27

PARAFFIN WAX (Fully Refined)

NEW YORK (prices per pound):		
123-125 a.m.p.	.03625	.03625
125-127 a.m.p.	.0375	.0375
128-130 a.m.p.	.0400	.0400
130-132 a.m.p.	.0425 .0450	.0450
133-135 a.m.p.	.0475	.0475
135-137 a.m.p.	.05	.05
Crude scale:		
124-126 w.s.	.0200 .0215	.0200 .0215
124-126 y.s.	.0185 .0200	.0185 .0200

Crude Oil Gravity Table

Gravity—	1 Oklahoma and Kansas	2 North Texas, Central Texas and East Central Texas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Conroe, Texas	7 Salt Creek, Wyo.	8 Gulf Coast, Texas and Louisiana	9 Gulf Coast, Texas and Louisiana	10 Cotton Valley, Louisiana
Below 20	....	....	....	....	....	....	....	$.82	$.82	....
20-20.9	....	....	....	....	....	....	....	.84	.84	....
21-21.9	....	....	....	....	....	....	....	.86	.86	....
22-22.9	....	....	....	....	....	....	....	.88	.88	....
23-23.9	....	....	....	....	....	....	....	.90	.90	....
24-24.9	....	....	....	....	....	....	....	.92	.92	....
Below 25	*$.76	....	....	....	....	....	....	....	....	$.70
25-25.9	*.78	....	....	....	....	....	....	.94	.94	.72
26-26.9	*.80	....	....	....	....	....	....	.96	.96	.74
27-27.9	*.82	....	....	....	....	....	....	.98	.98	.76
28-28.9	*.84	....	....	....	....	....	....	1.00	1.00	.78
Below 29	.84	$.79	$.79	....	....	....	$.84	....	....	....
29-29.9	.86	.81	.81	....	....	....	.86	1.02	1.02	.80
30-30.9	.88	.83	.83	....	....	....	.88	1.04	1.04	.82
31-31.9	.90	.85	.85	....	....	....	.90	1.06	1.06	.84
32-32.9	.92	.87	.87	....	....	....	.92	1.08	1.06	.86
33-33.9	.94	.89	.89	....	....	....	.94	1.10	1.07	.88
34-34.9	.96	.91	.91	....	....	....	.96	1.12	1.08	.90
Below 35	....	....	....	$.79	$.69	....	....	....	....	....
35-35.9	.98	.93	.93	.81	.71	$1.09	.98	1.13	1.09	.92
36-36.9	1.00	.95	.95	.83	.73	1.11	1.00	1.12	1.10	.94
37-37.9	1.02	.97	.97	.85	.75	1.13	1.02	1.12	1.11	.96
38-38.9	1.04	.99	.99	.87	.77	1.15	1.04	1.12	1.12	.98
39-39.9	1.06	1.01	1.01	.89	.79	1.17	1.06	1.12	1.13	1.00
40 and over	1.08	1.03	1.03	.91	.81	1.19	1.08	1.12	1.14	1.02

Effective December 3, 1934, Panhandle Refining Co., purchasing oil in North Texas, posted below 29 degrees, 68 cents; 29-29.9 degrees, 70 cents, with 2 cents added for each additional degree up to 40 and over, at 92 cents.

*The following companies purchasing crude oil in Kansas or Oklahoma, or both, begin their price schedule: Below 25°, 76 cents; 25-25.9°, 78 cents, with 2 cents added for each degree upward to 40 and over at $1.08; Carter Oil Co., Magnolia Petroleum Co., Pure Oil Co., Rock Island Refining Co., Shell Petroleum Corp., Sinclair Prairie Oil Marketing Co., Skelly Oil Co., and Wilcox Oil & Gas Co. All others begin their schedules at below 29°, 84 cents, excepting Phiitex Oil Co., which begins with below 31° at 88 cents.

Column 1—Effective September 29, 1933, Texas Co. of Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas and Oklahoma; Anderson & Prichard, Inc., in Oklahoma; Bell Oil & Gas Co. in Oklahoma; Carter Oil Co. in Oklahoma and Kansas; Deep Rock Oil Co. in Oklahoma; Derby Oil Co. in Kansas; Globe Refining Co. in Oklahoma; Golden Rule Refining Co. in Kansas; Gypsy Oil Co. in Oklahoma and Kansas; Kanotex Refining Co. in Kansas; Magnolia Petroleum Co. in Oklahoma; Mid-Continent Petroleum Corp. in Oklahoma; National Refining Co. in Kansas and Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Texas Co. in Oklahoma; Tide Water Oil Co. in Oklahoma; Vickers Refining Co. in Kansas; Continental Oil Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Oklahoma and Kansas; Phiitex Oil Co. in Kansas and Oklahoma; Pure Oil Co. in Oklahoma; Skelly Oil Co. in Kansas. Effective September 29, by White Eagle Oil Corp. in Kansas; October 1, by Barnsdall Refineries, Inc., in Oklahoma.

Column 2—Effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Bell Oil & Gas Co., Continental Oil Co. Effective January 14, 1935, in the Van Pool, Van Zandt County, Pure Oil Co. posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03.

Column 3—Effective September 29, 1933, by Texas Co., Magnolia Petroleum Co., Gulf Refining Co. Effective December 22, Stanolind Oil & Gas Co. in Pine Island, Louisiana, and Marion County, Texas, posted below 29°, 79 cents, with 2 cents added for each degree up to 40 and over at $1.03. Effective March 17, 1934, by Standard Oil Co. of Louisiana and Louisiana Oil Refining Co. Starting with below 25°, 71 cents, adding 2 cents for each degree upward to 40 and over at $1.03.

Column 4—Effective September 29, 1933, by Texas Co., Humble Oil & Refining Co., Magnolia Petroleum Co., Sinclair Prairie Oil Marketing Co., and H. F. Wilcox Oil & Gas Co. On same day, Phiitex Oil Co. posted below 31°, 71 cents, with 2 cents added for each degree up to 40 and over at 91 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 5—Effective September 29, 1933, by Texas Co., Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co., Wilcox Oil & Gas Co., Continental Oil Co. On same day, Phiitex Oil Co. posted below 31°, 61 cents, with 2 cents added for each degree upward to 40 and over at 81 cents. Effective June 1, 1934, Texas Co. (see note above).

Column 6—Effective September 29, 1933, by Humble Oil & Refining Co. and Tide Water Oil Co., and on September 30 by Texas Co., which on September 29 had posted a schedule of $1.07 to $1.12 with a 1-cent spread on each degree.

Column 7—Effective September 29, 1933, by Stanolind Oil & Gas Co.

Column 8—Effective September 29, 1933, by Humble Oil & Refining Co., Gulf Pipe Line Co., Shell Petroleum Corp., Pure Oil Co., Sinclair Prairie Oil Marketing Co. On October 2, Magnolia Petroleum Co. posted Lockport, Louisiana, 20-20.9°, 84 cents, with 2 cents added for each degree upward to 34 and over at $1.12; and in Cameron Meadows and Iowa, Louisiana, below 20°, 72 cents, with 2 cents added for each degree up to 34 and over at $1.02. These prices were 2 cents higher on each degree than Magnolia prices posted on September 29. Effective September 29, Shell Petroleum Corp. posted in Iowa, Louisiana, district: Below 20°, 70 cents, with 2 cents added for each degree upward to 34° and over at $1; and in Black Bayou and White Castle, Louisiana: Below 20°, 80 cents, with 2 cents added for each degree upward to 34° and over at $1.10.

Column 9—Effective September 30, 1933, Texas Co. (On September 29 Texas Co. has posted a schedule of 2 cents on each degree, but changed it on September 30.)

Column 10—Effective September 29, 1933, by Louisiana Oil Refining Co.

(California Crude Oil Prices on Page 34)

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas $1.00
Corsicana (heavy) (June 17, 1933)* ..... .80
Other fields ..... (See gravity table)

Note—In East Texas, effective September 29, 1933, by Texas Co., Stanolind Crude Oil Purchasing Co., Humble Oil & Refining Co., Shell Petroleum Corp., Gulf Pipe Line Co., Tide Water Oil Co., Sinclair Prairie Oil Marketing Co., Magnolia Petroleum Co., Sun Oil Co., Panola Pipe Line Co., Empire Oil & Refining Co., and Atlas Pipe Line Co. posted 60 cents per barrel in East Texas, but on November 3 resumed its posted price of $1 per barrel, making it retroactive to October 22.

*Magnolia Petroleum Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell (Sept. 29, 1933) ..... $.70
Ector, Winkler and Pecos Counties and Lea County, New Mexico (Sept. 29, 1933) ..... .75
Pecos County, Yates shallow Pool (Sept. 29, 1933)* ..... .65
Jones and Fisher Counties*. See gravity table

Note—Effective September 29, 1933, by Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co., Shell Petroleum Corp., Magnolia Petroleum Co., and by Stanolind Oil & Gas Co. in Winkler County, Texas.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers.
..... (See gravity table)
Tomball (see note)* $1.15
Livingston (Sept. 29, 1933)† 1.00
Cleveland (Jan. 11, 1934) 1.00
Greta (Sept. 29, 1933) ..... .85
Refugio, light .....(See gravity table)
Refugio, heavy (Sept. 29, 1933)‡ ..... .85
Markham and High Island .....
.....(See Gulf Coast gravity table)
Conroe .....(See Conroe gravity table)
Bosco, La. (Jan. 18, 1935)§ ..... $.90

Note—Tomball, effective September 29, by Humble Oil & Refining Co. and October 1 by Magnolia Petroleum Co., and November 10 by Stanolind Crude Oil Purchasing Co.

*Greta posted by Texas Co. †Shell Petroleum Corp. ‡Refugio heavy by Humble Oil & Refining Co. Cleveland (Liberty County) posted by Magnolia Petroleum Co. §Bosco posted by Pure Oil Co.

South Central and Southwest Texas

(See note below table)

Darst Creek ..... $.87
Mirando ..... .80
Luling (Sept. 29, 1933) ..... .75
Pettus 1.05
Salt Flat ..... .87
Lytton Springs (Sept. 29, 1933) ..... .95
Duval County (Sept. 29, 1933) ..... .80
Saxet ..... .85

Note—Effective on September 29 by Humble Oil & Refining Co. in Darst Creek, Mirando, Pettus, Salt Flat and Saxet. Effective September 29 in Darst Creek by Gulf Pipe Line Co. and Texas Co. Effective October 2 by Magnolia Petroleum Co. Effective in Pettus and Salt Flat on September 29 by Humble Oil & Refining Co. and Gulf Pipe Line Co. Luling and Lytton Springs by Magnolia Petroleum Co. Duval County by Texas Co. Saxet, effective September 29, by

(Continued on Page 34)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

April 16, 1935

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank wagon or 3 cents a gallon off retail prices is permitted for purchases running between 4,000 and 10,000 gallons a month, or 4 cents a gallon off retail prices for purchase in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	18 0	20.0	5 0	13.0
Pueblo	17 0	19 0	5 0	13 0
Grand Junction	20 5	22 5	5.0	15.0
Casper, Wyo.	18.0	20.0	5.0	11 5
Cheyenne	18 0	20.0	5 0	13 0
Butte, Mont.	21 0	23 0	5 0	17 5
Billings	22.0	24 0	6.0	16 5
Helena	23 0	25.0	6.0	17.5
Great Falls	19.5	21.5	6.0	17.5
Salt Lake, Utah	21 0	23 0	5 0	16 0
Boise, Idaho	22.5	24 5	6.0	18.0
Twin Falls	22.5	24.5	6 0	18 0
Albu'que, N. M.	19.5	21.5	*6.5	13.0

*One-half cent city tax.

Effective March 1, 1934, discount to dealers with or without contract throughout Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	14.9	16.9	4 0	9 0
Decatur, Ill.	14 8	16 8	4 0	9.4
E. St. Louis	14.5	16.5	4.0	9 1
Joliet	14 9	16.9	4 0	9 5
Peoria	14.8	14.8	4 0	9 4
Quincy	14 7	16 7	4 0	9.3
Davenport, Ia.	14.8	16.8	4.0	9 4
Des Moines	14.7	16 7	4 0	9 3
Mason City	15.0	17.0	4.0	9 6
Sioux City	14 9	16 9	4 0	9.5
Duluth, Minn.	15.6	17 6	4 0	10 2
Mankato	15 3	17.3	4 0	9.9
Minneapolis	15 3	17 3	4 0	9 9
LaCrosse, Wis.	16.3	18 3	5 0	9.9
Green Bay	16 5	18.5	5 0	10.1
Milwaukee	16 1	18.1	5.0	9 7
Madison	16 3	18 3	5.0	9 9
Detroit, Mich.	16.3	18.3	4.0	9 0
Grand Rapids	16.2	18 2	4 0	10.2
Saginaw	16 5	18.5	4 0	10.5
Evansville, Ind.	16 6	18 1	5 0	10.0
Indianapolis	16.7	18 7	5.0	10 1
South Bend	17.0	19 0	5 0	8.0
Fargo, N. Dak.	16 3	18 3	4.0	10.9
Huron, S. Dak.	16 8	18 8	5 0	10 4
Sioux Falls	16 2	18.2	5.0	9.8
Kans. C., Mo.*	14 2	16 2	4.0	7 5
Springfield	13.9	15.9	4 0	8 5
St. Louis	14 5	16 5	3.5	7.5
St. Joseph*	14 2	16.2	4 0	8.8
Wichita, Kans.	13 8	15 8	4 0	6 0
Bartlesville, Ok.	16.0	18.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

Discounts to dealers: Undivided accounts, 1½ cents on premium and regular and 2½ cents on third grade off service station prices; divided accounts one-half cent less than undivided. Where prices are more than 1 cent below normal, the discounts are one-half cent less than above.

Stanolex Furnace Oil in Chicago

Effective Feb. 16, 1935, f.o.b. Chicago tank wagon prices: Range oil, less than 80 gallons, 8½ cents; 80-149 gallons, 7½ cents; 150 gallons and more, 7 cents. No. 1 (36-40 lt. stw. zero), less than 100 gallons, 8½ cents; 100-149 gallons, 7½ cents; 150 gallons or more, 7 cents; No. 2 (30-34, stw. zero), less than 150 gallons, 8 cents; No. 3 (22-26, zero), less than 150 gallons, 7 cents; No. 4 (12-16 zero), less than 400 gallons, 7 cents; viscosity of No. 4, 85 and 100° F.; No. 5, less than 400 gallons, 5¾ cents. For deliveries of more than stated quantities of Nos. 2, 3, 4 and 5, deduct 1 cent.

(Note: Range oil not quoted by Standard; quotation on this product by Burning Oil Distributors Association.)

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	18 0	20 0	7.0	12.0
Augusta	19.5	21.0	7 0	15.0
Macon	20.0	22.0	7.0	13.0
Savannah	18 5	20 5	7.0	14.0
Birm'ham, Ala.	21.0	23.0	8.0	10.0
Mobile	20.0	22.0	8.0	11.0
Montgomery	22 0	24 0	8.0	15.5
Jackson, Miss.	19 0	21.0	7.0	11.0
Vicksburg	19 0	21.0	7.0	14.5
Jack'ville, Fla.	18.5	20.5	8.0	11.5
Miami	18 5	20.5	8.0	13.5
Pensacola	20 0	22 0	8.0	11.5
Tampa	18.5	20.5	8.0	12.5
Lexington, Ky.	19.0	21 0	6 0	12 5
Covington	17.5	19.0	6.0	12.5
Louisville	18.0	20 0	6 0	10.0
Paducah	18.0	20 0	6 0	8.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia and Mississippi include 1 cent state tax; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline; in Florida an inspection fee of one-eighth cent on kerosene and gasoline. To Pensacola, Mobile and Birmingham state taxes on gasoline add 1 cent city tax.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	14 0	16 0	5.0	8.0
Fort Worth	14 0	16.0	5.0	8 0
Houston	15 0	17 0	5.0	8.0
San Antonio	16 0	18.0	6.0	8.0
El Paso	16 0	18 0	5 0	10 0
Muskogee, Ok.	16.0	18.0	5.0	6.0
Okla. City	16.0	18.0	5 0	8 0
Tulsa	16.0	18.0	5.0	8 0
Ft. Smith, Ark.	14 5	17.5	5.0	8 0
Little Rock	16.5	20 0	7 5	9.0
Texarkana	15.0	17.0	5.0	7 0

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	12.9	16 4	4 0	9.0
Newark	13 0	16.5	4 0	7 5
Annapolis, Md.	14.3	17.8	5.0	10.0
Baltimore	13.8	17.3	5.0	8.5
Cumberland	15.3	18.8	5 0	12.7
Wash'g'n, D. C.	12 0	15.5	3 0	9.5
Danville, Va.	16.3	19.8	6 0	12 9
Norfolk	14 8	18.3	6 0	11.3
Petersburg	15 5	19.0	6.0	11.4
Richmond	15 0	18.5	6 0	11 7
Roanoke	16.5	20.0	6.0	12.9
Charls'n, W.Va.	14 3	17.8	5.0	12.6
Parkersburg	14.0	17 5	5.0	11.2
Wheeling	15.0	18 5	5.0	12.2
Charlotte, N. C.	18.1	21.6	7.0	13.5
Hickory	18 4	21.9	7 0	13 7
Mt. Airy	18 4	21 9	7.0	13 8
Raleigh	17.9	21.4	7.0	13.3
Salisbury	18 2	21 7	7.0	13.6
Charleston, S.C.	15 9	19 4	7.0	11.3
Columbia	17.7	21 2	7 0	13.2
Spartanburg	18.1	21.6	7.0	13.5

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	17.2	19.2	6.0	10.0
McCook	17.9	19.9	6 0	10.7
Norfolk	17.6	19.6	6.0	10.4
North Platte	18.0	20.0	6.0	10.0
Scottsbluff	18.7	20.3	6.0	11.5

Note: Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	16.0	19.5	‡8.0	†13.0
Baton Rouge	15.2	18.7	†7.0	12.0
Alexandria	16.1	19.6	†*8.0	10.0
Lafayette	16.2	19.8	‡*8.0	12.0
Lake Charles	16.2	19.7	†*8.0	12.0
Shreveport	14.0	17.5	†7.0	12.0
Knoxville, Tenn.	17.7	20.2	8.0	13.5
Memphis	16.0	18.5	8.0	10.5
Chattanooga	17.0	19.5	8.0	11.0
Nashville	16.5	19.0	8.0	13.0
Bristol	17.0	20.5	8.0	14.0

*Includes city tax of 1 cent.

‡Includes 2-cent parish tax. †Includes 1-cent parish tax.

Effective October 23, tank wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA.

	Gasoline: Tank wagon†	Gasoline: Posted retail	Gasoline: Incl'ds tax of	Kero. tank wagon
San Francisco	16 5	18.5	4.0	11.5
Los Angeles	13.5	15.5	4.0	10.5
Fresno, Calif.	17.0	19.0	4.0	12.0
Phoenix, Ariz.	20.0	22 0	6.0	‡18.0
Reno, Nev.	19 0	21.0	6 0	13.0
Portland, Ore.	19 0	21.0	6.0	13.0
Seattle, Wash.	19.0	21.0	6.0	13.5
Tacoma	19.0	21.0	6.0	13.5
Spokane	22.0	24.0	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

‡Includes 5-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Phil'delphia, Pa.	14.0	16.0	4.0	9.0
Pittsburgh	15.0	17.0	4.0	10.0
Allentown	14.5	16.5	4.0	10.0
Erie	15.0	17.0	4.0	9.0
Scranton	15.0	17.0	4.0	10.0
Altoona	15.0	17.0	4.0	10.0
Dover, Del.	14.5	16.5	4.0	10.0
Wilmington	14.5	16.5	4.0	9.0
Springf'd, Mass.	13 0	14 0	4 0	8.0
Worcester	13 0	14.5	4 0	8.5
Hartford, Conn.	12.0	15.5	3.0	8.0
New Haven	12.0	15.5	3.0	8.0
Providence, R.I.	11.5	13.0	3.0	7.0

Note—Tank wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	†22.0	25.0	6.0	17.5
Toronto, Ont.	†22.0	25.0	6.0	17.5
Brandon, Man.	30.3	33.3	7.0	21.8
Winnipeg, Man.	27.7	31.7	7.0	20.2
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.8	34.9	6.0	24.3
Edmonton, Alta.	32.2	35.2	7.0	23.7
Calgary, Alta.	29 5	32.5	7.0	21.0
Vancouver, B.C.	27.0	30.0	7.0	24.0
Montreal, Que.	24.0	27.0	6.0	17.0
St. John, N.B.	26.0	30.0	8.0	19.5
Halifax, N. S.	26.0	30.0	8.0	19.5

*Imperial gallon used in Canada. †Governed by service station price.

Maritime provinces, all dealers 4 cents off service station price. All other provinces open dealers 3 cents per gallon off service station price (except Toronto and Hamilton cities which are—open dealers 2½ cents off service station price) 1 cent additional to 100 per cent accounts.

Naphtha

STANDARD OIL CO (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago, March 12, 1935. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

New York and New England

SOCONY-VACUUM CO., INC

	Gasoline: Posted dealer	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	14.0	17.5	5.0	8.0
Met. New York	13.05	15.8	5.0	7.75
Br'klyn, Queens	12.8	15.3	5.0	7.75
Buffalo	14.7	18.2	5.0	8.0
Rochester	14.7	18.2	5.0	8.5
Syracuse	14.5	18.0	5.0	8.75
Boston, Mass.	11.8	14.3	4.0	7.5
Portland, Me.	14.5	18.0	5.0	8.75
Manch't'r, N.H.	14.5	18.0	5.0	9.0
Burlington, Vt.	16.3	19.8	5.0	9.0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	16.25	18.25	5.0	*12.5

*Includes state tax of 1 cent, effective July 22.

Retail Price Changes

Regular-Grade Gasoline and Kerosene

Standard Oil Co. of Indiana, April 12, advanced tank wagon and station gasoline .3 cent in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, North Dakota and South Dakota.

Standard Oil Co. of Nebraska, April 12, advanced tank wagon and station gasoline .3 cent throughout Nebraska.

Standard Oil Co. of California, April 11, advanced tank wagon kerosene one-half cent in San Francisco, and 2 cents in Phoenix; and reduced it 2 cents in Los Angeles, 2.5 cents in Reno and 1.5 cents in Spokane.

Standard Oil Co. of New Jersey, March 22, reduced station gasoline 2 cents in Salisbury; April 8 advanced tank wagon gasoline .7 cent and station gasoline 2.7 cents. April 8, advanced tank wagon and station gasoline .8 cent in Newark. .3 cent in Cumberland, .5 cent in Wheeling, 2.6 cents in Spartanburg, .9 cent in Hickory and Mt. Airy, and .7 cent in Charlotte, Raleigh, Charleston, S. C. and Columbia; reduced tank wagon and station gasoline .7 cent in Charleston, W. Va., one-half cent in Richmond, and .2 cent in Annapolis, Baltimore, Danville and Norfolk. April 8, advanced tank wagon kerosene 1 cent in Atlantic City. April 10, reduced tank wagon kerosene 1 cent in Atlantic City and Newark.

Standard Oil Co. of Kentucky, March 26, advanced tank wagon and station gasoline 3 cents in Atlanta; April 2, advanced them 1 cent further; April 5, reduced them 2 cents. March 28, reduced tank wagon gasoline one-half cent and station gasoline 1 cent in Augusta; March 30, advanced tank wagon gasoline .5 cent and station gasoline 1 cent; April 26, advanced them 1 cent further; April 4, reduced tank wagon gasoline .5 cent and station gasoline 1 cent. April 2, advanced tank wagon and station gasoline 1 cent in Macon, Savannah, Lexington, Louisville, Paducah and Pensacola. March 21, reduced tank wagon kerosene 2 cents in Jackson; April 2, advanced tank wagon and station gasoline .5 cent. April 2, advanced tank wagon gasoline 5.5 cents and station gasoline 6.5 cents in Vicksburg. April 2, advanced tank wagon and station gasoline 1.5 cents in Mobile and Montgomery. March 22, advanced tank wagon and station gasoline .5 cent in Covington; April 2, advanced them .5 cent further; April 8, advanced tank wagon gasoline .5 cent and station gasoline 1 cent. April 2, advanced tank wagon and station gasoline 1.5 cents in Birmingham.

Atlantic Refining Co., April 5, reduced station gasoline 2.5 cents in Springfield. April 9, reduced station gasoline 2 cents and tank wagon kerosene .5 cent in Worcester.

To refiners who are WEARING OUT PENCILS and TEARING OUT HAIR over redistillation costs!

DU PONT
REG. U. S. PAT. OFF.

ANTIOXIDANTS

SAVE your hair, save your pencils and save yourself worry over redistillation costs by stabilizing your cracked gasoline with Du Pont Antioxidants. It's the way the modern refiner can put new life into his business. And now is the time to do it. Remember the pioneers who were responsible for cracked gasoline? Now every modern refiner is cracking gasoline. It will be the same way with the use of antioxidants.

And here's why: Du Pont Gasoline Antioxidants prevent gum from forming. Make possible higher yields of gasoline because they minimize acid treatment losses. Cut down redistillation costs . . . and in some cases re-runs can be eliminated entirely. Give the maximum preservation of anti-knock properties. And the material cost is practically nil . . . running from ½c to 2½c per bbl.

Stop worrying about redistillation costs. Write, wire or call today for more information and samples.

E. I. DU PONT DE NEMOURS & COMPANY, INC., Intermediates Division, Organic Chemicals Department, Wilmington, Delaware.

Chicago Refinery Market Remains Strong With Hope of Still Better Price Levels

By SPECIAL CORRESPONDENT

CHICAGO, Apr. 15.—The refinery gasoline market continues strong and, in the opinion of many observers, points toward still better price levels. The additional three-tenths cent tank wagon and service station advance on April 12 for Standard of Indiana territory indicates that the recently inaugurated policy of Standard in following tank car prices more closely with wagon and retail changes is continuing.

Jobbers, while in most cases believing the margins allowed them at a theoretical 5½-cent level are not adequate for their needs, are more hopeful on trade talk that this margin might be slightly liberalized when markets reach a level more profitable. Also they are cheerful over the fact that price wars in this region are virtually eradicated. They are trying to get a slight advantage by pressing for use of average instead of low published prices as used by Standard in figuring the margins.

Jobber Business

The jobbing trade has been so closely tied up on contracts it is not a very large factor in the spot market at this time. However, there are some spot sales to jobbers. Moreover, jobbers have been ordering out gasoline on their contracts at a high rate, especially in regions where weather conditions have been more favorable. On the basic of shipping instructions received by some refiners, gallonage has been extremely large, even when compared with the good rates recorded last spring. Meanwhile, the tank car trade aside from jobbers is buying a little better in the spot market. All in all, a favorable background for the strengthening tank car price structure is being supplied.

Buyers are not now resisting the tank car price advances to any noticeable extent. It is questionable what they have in storage, although not supposed to be very large in spite of recent large-scale contract shipments.

Toward Better Gasoline

Consumer gasoline demand is swinging continuously away from third-grade gasoline and toward regular grade, according to reports from representative small and major companies. Preservation of the 1-cent differential is believed to be responsible partly; also the increased dilution of the total number of cars in use by new cars requiring motor fuel of good quality. In the past few months there has been quite a demand for natural and blending naphtha by jobbers, apparently accelerated by the higher price of refinery motor gasoline recently. Higher prices for the two blending products may swing demand back again to the motor grades.

Kerosene, Tractor Fuels

Kerosene has been quite tardy in getting started in a market way, but seems to be slowly tightening up, especially in the better grades. Some easy spots have disappeared in the structure. Demand is beginning to increase from the rural regions, as tractors are put into large-scale use. The same of course is applicable to tractor fuel which, as such, is attracting some attention.

Lubricants

Lubricants are rather in the doldrums so far as price is concerned. Demand has been rather moderate. The motor oil business at retail has been fairly good in general. Offerings in the wholesale trade are plentiful.

Industrial Oils

The industrial gas oil business which has been characterized by a strong tone, now notes a slight lessening of the de-

(Continued on Page 40)

Crude Oil Prices

(Continued from Page 31)

Humble Oil & Refining Co. and Texas Co. Effective September 20 in Salt Flat by Shell Petroleum Corp.

Rocky Mountain States

Iles, light (Sept. 29, 1933)	$.96
Iles, heavy (Sept. 29, 1933)	.90
Florence, Colo. (June 17, 1933)	.80
Fort Collins and Wellington, Colo. (June 17)	(See Salt Creek prices)
Big Muddy (Sept. 29, 1933)	1.01
Frannie, light (May 1, 1934)	.70
Frannie, heavy (Sept. 29, 1933)	.62
Salt Creek and LaBarge (Sept. 29, 1933)	See Stanolind Mid-Continent price schedule
Grass Creek, light (Sept. 29, 1933)	1.18
Grass Creek, heavy (Sept. 29, 1933)	.62
Elk Basin (Sept. 29, 1933)	1.18
Rock Creek (Sept. 29, 1933)	1.02
Lance Creek (Dec. 16, 1932)	.92
Hudson (June 2, 1931)	.65
Lost Soldier (Sept. 30, 1933)	.88
Hamilton Dome, all grades (Feb. 16, 1935)	.57
Torchlight (Sept. 29, 1933)	1.18
Greybull (Sept. 29, 1933)	1.18
Pondera (Sept. 29, 1933)	1.25
Sunburst (Sept. 29, 1933)	1.35
Cat Creek, Montana	1.07
Hogback (Sept. 29, 1933)	1.11
Lea County, N. Mex. (Sept. 29, 1933)	.75
Maljamar (Sept. 29, 1933)	.70
Artesia-Jackson (Dec. 1, 1933)*	.75

Note—Salt Creek, Torchlight, Elk Basin, Grass Creek, Frannie, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. Elk Basin, Grass Creek light, Big Muddy, Rock Creek and Sunburst by Ohio Oil Co. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective September 29, 1933, by Humble Oil & Refining Co. and other buyers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro. Hamilton Dome, Wyo., by Stanolind Oil & Gas Co. Pondera, Mont., by Ohio Oil Co. (Stanolind Oil & Gas Co., effective January 1, 1935, posted $1 per barrel in Pondera.)

*Continental Oil Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	$.70
Tullos, Urania, La. (Jan. 13, 1934)	.81
Nevada, Ark. (Sept. 29, 1933)	.60
East El Dorado (Sept. 29, 1933)	.70
Converse, La. (Mar. 17, 1934)	1.00
Elm Grove, La. (Sept. 29, 1933)	.75
Holly, La. (Nov. 17, 1934)	1.07
Pleasant Hill, La. (Mar. 17, 1934)	1.00
Zwolle, La. (Mar. 17, 1934)	1.00
Champagnolle, Ark. (Mar. 17, 1934)	.81
Lisbon, Ark. (Mar. 17, 1934)	1.00
Stephens, Ark. (Sept. 29, 1933)	.70
Urbana, Ark. (Mar. 17, 1934)	.60
Other fields	(See gravity table)

Note—Smackover: Effective September 29, 1933, Texas Co., Magnolia Petroleum Co., Standard of Louisiana, Louisiana Oil Refining Corp., Gulf Refining Co. and Phillips Petroleum Co. East El Dorado posted by Magnolia Petroleum Co. and Gulf Refining Co., Nevada by Standard Oil Co. of Louisiana. Urbana posted by H. L. Hunt, Inc., and Louisiana Oil Refining Co. Converse, Holly, Zwolle and Urbana by Standard Oil Co. of Louisiana; Elm Grove by Simmons Oil & Refining Co.; Pleasant Hill by Standard Oil Co. and Magnolia Petroleum Co. Champagnolle by Standard Oil Co. and Lion Oil & Refining Co.

Eastern States

TIDE WATER PIPE CO.
(Effective Feb. 4, 1935)

Bradford, Pa.	$2.30
Allegany, N. Y.	2.35

SOUTH PENN OIL CO.
(Effective Feb. 4, 1935)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.35
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.00
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.97
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Oct. 1 1933)	1.97

PENNZOIL CO.
(Effective Feb. 4, 1935)

Pennsylvania Grade Oil in National Transit Lines:	
Group A (Includes Cochran, Franklin, Hamilton and Doolittle districts.)	$2.37
Group B (Includes Titusville district.)	2.30
Group C (Includes Turkey and Tidioute districts.)	2.35
Group D (Includes Bear Creek and Porkey districts.)	2.34
Group E (Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacey and Kinzua districts. Price depends on length of pipe line haul to plant at Oil City.	2.31

PURE OIL CO.
(Effective Jan. 4, 1935)

Cabin Creek, W. Va.	$1.83
Bradford Hollow, W. Va.	1.83
Kelly Creek, W. Va.	1.77

CREW-LEVICK CO.
(Effective Jan. 4, 1935)

Oil City-Titusville	2.13

Middle Western States

OHIO OIL CO.

Lima (Feb. 1, 1935)	$1.13
Illinois (Jan. 5, 1934)	1.13
Princeton, Ind. (Jan. 5, 1934)	1.13
Plymouth	Shut in
Western Kentucky (May 26, 1934)	1.00
Midland, Mich. (Sept. 30, 1933)*	1.03
West Branch, Mich.	.98
Oceana, Mich. (Oct. 5, 1933)	.90
Somerset, Ky. (Sept. 30, 1933)	1.13

*Posted by Pure Oil Co. and Simrall Pipe Line Co. Producers Pipe Line Co. pays 3 cents per barrel over Pure Oil Co.'s posted prices. West Branch, Mich., posted by Simrall Pipe Line Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Canada

Ontario (September 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (May 21, 1934):†	
Clear naphtha	$2.50
Discolored naphtha	2.37
Crude oil, 50 gravity	2.10
Crude oil, 45 to 49.9	2.07
Crude oil, 40 to 44.9	1.87

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco*	$1.61

*F.o.b. ship, based on March transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective September 6, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier, La Habra	Montebello	Santa Fe Springs	La Habra-Coyote	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga	Coyote
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	....	$.65	$.65	$.65	$.65	....	$.65	$.57	$.57	$.57	$.65
15-15.9	.65	.65	.69	.69	.66	.69	....	.66	.65	.65	.65	....	.65	....	....	....	.65
16-16.9	.66	.65	.72	.73	.69	.73	....	.69	.67	.68	.65	....	.65	....	....	....	.65
17-17.9	.69	.65	.75	.76	.73	.76	....	.72	.70	.71	.65	....	.68	....	....	....	.68
18-18.9	.72	.65	.78	.80	.76	.79	....	.75	.74	.74	.65	....	.71	.61	.61	.59	.71
19-19.9	.75	.65	.81	.83	.80	.82	....	.78	.78	.78	.65	....	.74	.64	.65	.62	.74
20-20.9	.78	.68	.83	.87	.83	.85	....	.81	.82	.81	.66	....	.78	.67	.69	.65	.78
21-21.9	.81	.72	.86	.90	.87	.88	....	.83	.85	.84	.69	$.72	.81	.70	.73	.68	.81
22-22.9	.84	.76	.89	.94	.90	.92	....	.85	.89	.87	.72	.76	.84	.73	.76	.72	.84
23-23.9	.88	.81	.92	.97	.94	.95	$.83	.89	.92	.90	.76	.79	.87	.77	.79	.75	.87
24-24.9	.91	.86	.95	1.01	.97	.98	.86	.92	.97	.93	.80	.82	.90	.81	.82	.78	.90
25-25.9	.94	.89	.98	....	1.00	1.01	.90	.95	1.00	....	.85	.87	.93	.85	.85	.81	.93
26-26.9	.97	.93	1.01	....	1.04	1.04	.94	.98	1.04	....	.89	.90	.96	.89	.88	....	.96
27-27.9	1.00	.98	1.04	....	....	1.07	.97	....	1.08	....	....	.94	.99	.93	.91	....	.99
28-28.9	1.03	1.02	1.07	....	....	1.10	1.01	....	1.11	....	....	.98	1.02	.97	.94	....	1.02
29-29.9	1.06	1.05	1.09	....	....	....	1.04	....	1.15	....	....	1.01	1.05	1.01	.97	....	1.06
30-30.9	1.09	1.10	1.12	....	....	....	1.08	....	....	....	....	1.05	1.09	1.05	1.00	....	1.09
31-31.9	....	....	....	....	....	....	1.12	....	....	....	....	1.08	1.12	1.09	....	....	1.12
32-32.9	....	....	....	....	....	....	1.15	....	....	....	....	1.12	1.15	1.13	....	....	1.15
33-33.9	....	....	....	....	....	....	....	....	....	....	....	1.16	1.18	1.17	....	....	1.18
34-34.9	....	....	....	....	....	....	....	....	....	....	....	1.19	1.21	....	....	....	1.21
35-35.9	....	....	....	....	....	....	....	....	....	....	....	1.23	....	....	....	....	....
36-36.9	....	....	....	....	....	....	....	....	....	....	....	1.26	....	....	....	....	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	1.30	....	....	....	....	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.34	....	....	....	....	....

Additional Standard Oil Quotations

Mountain View—Effective July 3, 1934, the following are the prices of the Standard Oil Co. of California for its current purchases of crude oil at the well in the Mountain View Field: 14 to 19.9 degrees, 57 cents; 20-20.9, 58 cents; 21-21.9, 59 cents; 22-22.9, 61 cents; 23-23.9, 63 cents; 24-24.9, 66 cents; 25-25.9, 69 cents; 26-26.9, 72 cents; 27-27.9, 75 cents, 28-28.9, 78 cents; 29-29.9, 81 cents; 30-30.9, 84 cents; 31-31.9, 87 cents; 32-32.9, 90 cents; 33 degrees and above, 93 cents.

Elwood Terrace—F.o.b. ship, 33 degrees, $1.03; 34 degrees, $1.06; 35-35.9, $1.09; 36-36.9, $1.12; 37 degrees and over, $1.15.

Newhall—14 degrees and over, 57 cents.

McKittrick and Kern River—14 degrees and over, 57 cents.

Wheeler Ridge—14 to 17.9 degrees, 57 cents; 18-18.9, 58 cents; 19-19.9, 61 cents; 20-20.9, 64 cents; 21-21.9, 67 cents; 22-22.9, 70 cents; 23-23.9, 73 cents; 24-24.9, 76 cents; 25 degrees and over, 79 cents.

Kettleman Hills—33-33.9 degrees, 93 cents; 34-34.9, 96 cents; 35-35.9, 99 cents; 36-36.9, $1.02; 37-37.9, $1.05; 38-38.9, $1.08; 39 degrees and over, $1.11.

The Texas Co. posted in Shiells Canyon, South Mountain and Santa Paula as follows: 14 to 17.9, 57 cents; 3 cents added for each degree up to and including 26-26.9 degrees at 84 cents; then 4 cents added for each degree up to and including 30 degrees and over at $1. Company posts Standard Oil Co.'s Montebello prices in Montebello and North Whittier, and posts Standard Oil Co. prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield and Santa Fe Springs, all effective September 6.

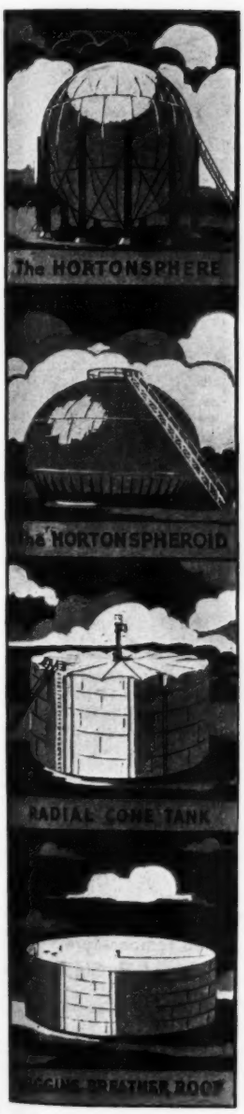
General Petroleum Co. posts Standard Oil Co. prices in Athens, Rosecrans and Signal Hill; Alamitos Heights up to 26-26.9; Santa Fe Springs up to 35-35.9; Richfield up to 25-25.9; Brea Canyon and Olinda up to 25-25.9, and Torrance up to 25-25.9.

Union Oil Co., effective September 6, posts same price as Standard Oil Co. in all fields in which both purchases, excepting that in Athens-Rosecrans, Union Oil Co. posts 21-21.9, 72 cents, and 33--33.9, $1.18; 34-34.9, $1.21, and 35-35.9, $1.24.

Associated Oil Co., effective September 6, posted same prices for the same grades as Standard Oil Co. of California, excepting that in some fields its gravity scale stops as follows: Huntington Beach, 26 degrees and over; Seal Beach and Alamitos Heights, 36 degrees and over; Coyote Hills, 23 degrees and over; Richfield, 25 degrees and over; Torrance, 25 degrees and over; Inglewood, 24 degrees and over; Santa Fe Springs, 35 degrees and over; Midway-Sunset, Elk Hills, Buena Vista Hills, 30 degrees and over. Also Associated pays 53 cents for oil of 11 to 13.9 gravity in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

TANKS THAT STOP EVAPORATION LOSSES

An "OVERHEAD" VIEW OF WIGGINS PONTOON ROOFS



A TANK ROOF may be looked at from various angles and similarly, its functions may be considered from as many points of view. To one man it is a cover to keep the weather out of the tank. To another it is a part of a structure requiring inspection and painting. To another it means an item of investment in equipment, to be depreciated on the books year by year.

But from another viewpoint—that of the executive—a tank roof may play an important part in cutting "overhead." For example, pipe line pumping station tanks and all working tanks at refineries, shipping terminals, and marketing centers are subject to tremendous losses through evaporation.

Wiggins Pontoon Roofs have demonstrated their ability to stop evaporation loss on thousands of working tanks. They eliminate this wasteful "overhead" by simply keeping air out and vapor in. The roof floats directly on the surface of the liquid at all levels, so there is no daily breathing out of vapor and breathing in of air. Similarly, there is no space for vapor to fill when the tank is empty and therefore no loss of vapor when it is filled again.

The saving effected by Wiggins Pontoon Roofs repays their cost in a short time. From then on, they make a substantial reduction in "overhead" throughout their life.

We have specialized on evaporation engineering for years and offer a complete line of equipment to minimize evaporation in tanks under all conditions. Our nearest office will gladly furnish information and cost estimates.

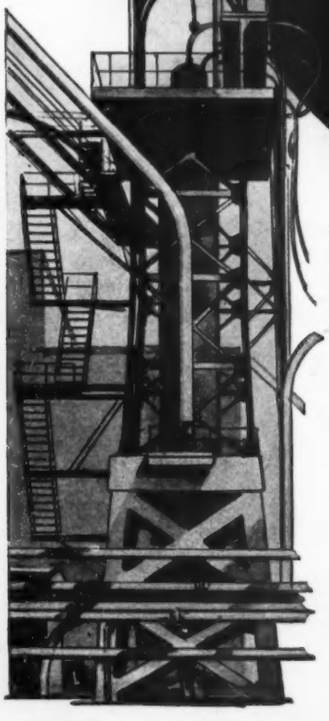
CHICAGO BRIDGE & IRON WORKS

Dallas	1241 Dallas Athletic Club Bldg.	Cleveland	2204 Rockefeller Bldg.
Houston	2919 Main Street	New York	3147-165 Broadway Bldg.
Tulsa	1606 Thompson Bldg.	Philadelphia	1615-1700 Walnut St. Bldg.
Birmingham	1536 North Fiftieth Street	Boston	1517 Consolidated Gas Bldg.
Chicago	2128 Old Colony Bldg.	San Francisco	1054 Rialto Bldg.
Detroit	1514 Lafayette Bldg.	Los Angeles	1425 Wm. Fox Bldg.

Fabricating plants in BIRMINGHAM, CHICAGO and GREENVILLE, Pa.

TIMKEN DM STEEL

Reduces Refinery Tube Replacements



TIMKEN DM STEEL was developed and is recommended for refinery tube applications where the prevailing temperature and pressure conditions are too severe for carbon steel.

It combines the highest creep strength of any low alloy steel with excellent oxidation and corrosion resistance. Its great reserve strength is another strong factor of extended tube life. Refinery operators who are having trouble through the failure of carbon steel tubes due to temperature, pressure or both, will find Timken DM Steel Tubes particularly economical.

Fewer tube replacements mean fewer shutdowns —more production—in addition to a considerable saving of material. You cannot afford to overlook these advantages.

THE TIMKEN STEEL & TUBE COMPANY, CANTON, OHIO

District Offices or Representation in the following cities: Detroit Chicago New York Los Angeles Boston Philadelphia Houston Buffalo Rochester Syracuse Tulsa Cleveland Erie Dallas Kansas City St. Louis Cincinnati Huntington Pittsburgh

World's Largest Producer of Electric Furnace Steel

TIMKEN STEEL TUBES

ELECTRIC FURNACE AND OPEN HEARTH • ALL STANDARD AND SPECIAL ANALYSES

NEWS FOR PETROLEUM REFINERS

Sales to State Agencies Exercising Two Functions

The Bureau of Internal Revenue has issued ruling that where gasoline and lubricating oil are delivered by the producers thereof or their vendees direct to central agencies of a state or political subdivision for use by departments exercising proprietary and essential governmental functions, such products may be sold tax free for use in the exercise of essential governmental functions provided prior to or at the time of sale the state or political subdivision to which the sale is made furnishes an exemption certificate based upon the best available information, showing by what particular agencies or departments, in what quantities, and for what purposes the gasoline and lubricating oil will be used.

The next of the ruling is as follows:

"It is stated in making sales to states and political subdivisions, particularly to municipalities, it very frequently occurs that one department will have functions that are both proprietary and essentially governmental in nature, and that in some instances separate tanks are available for the storage of the products, but that in the majority of cases one tank is used for storing the products from which a portion is used for proprietary functions and the balance for essential governmental functions.

"It is contended that it should not be necessary to have separate tanks for the products but that the municipalities should be entitled to purchase the products tax free upon the execution of an appropriate exemption certificate, provided they can determine with reasonable accuracy the proportion of the products which will be used in the exercise of essential governmental functions.

"It is held that where gasoline and lubricating oil are delivered by the producers thereof or their vendees direct to central agencies of a state or political subdivision for use by departments exercising proprietary and essential governmental functions, such products may be sold tax free for use in the exercise of essential governmental functions provided prior to or at the time of sale the state or political subdivision to which the sale is made furnishes an exemption certificate in the form prescribed in Article 24 of Regulations 44 (revised September 1934) based upon the best available information, showing by what particular agencies or departments, in what quantities, and for what purposes the gasoline and lubricating oil will be used."

Work Begun on Wilshire Refinery in California

The Wilshire Oil Co. of California has contracted for the erection of a new 12,500 bbl. refinery in the Santa Fe Springs Field. Construction has begun by the Ralph M. Parsons Co. The refinery will be built around a Dubbs cracking unit of the latest type, which will have a charging capacity of 8,000 bbls. per day. The Wilshire Oil Co. now has a plant at Vernon, Calif., which has a capacity of 20,000 bbls. but no cracking facilities. The new plant is being built on the 250-acre site of the Wilshire tank farm.

SUNRISE INCORPORATED

EDMONTON, Alberta, Apr. 13.—Sunrise Oil Distributors, Ltd., has been incorporated under provincial charter with $10,000 capitalization to distribute petroleum products in the vicinity of Black Diamond, Alberta, where its head office is located.

Petroleum Division at A. C. S. Convention to Feature Asphalt and Gas Research

Addresses by more than 50 leading research chemists reporting developments in the oil industry which last year saved refiners approximately 50,000,000 bbls. of refined products out of the 893,000,000 bbls. of crude petroleum consumed will feature the program of the Petroleum Division of the American Chemical Society at the Society's eighty-ninth meeting in New York, April 22 to 26.

The convention celebrates the tercentenary of the founding of the American chemical industries by John Winthrop, Jr., first colonial governor of Connecticut and the father of science in America. More than 10,000 members of the Society from all parts of the country will attend.

"Research chemists have been the greatest force in conservation in the oil industry," according to Dr. Egloff, who will give the initial address on "Three Hundred Years of Oil—A Story of Conservation." Dr. Egloff is director of research at the laboratories of the Universal Oil Products Co.

"To have produced last year's gasoline requirements by the processes in use a few years ago, it would have been necessary to have run 1,866,000,000 bbls. of crude oil," he continued. "But in 1934, the industry actually supplied the gasoline requirements by running 893,000,000 bbls. of crude oil. That is real conservation of a limited natural resource," he declared, giving credit for the saving to the constant work of research chemists in developing refinements in the processes of the industry.

"Since its beginning," Dr. Egloff went on, "Conservation has been the keynote of the oil industry and its operating men have striven for conservation even at the expense of profits. Conservation, in fact, has been forced upon the industry by the insistent demand of the growing automobile industry for more gasoline.

"Refiners, since the beginning of the automobile era, have been constantly competing with each other to increase the quantity and improve the quality of their gasoline and lubricants. Today, this race for greater yield, better quality, and increased conservation of our oils is going on at a faster pace and everything points to an accelerated tempo in the future.

"The result is that the public today is getting more value at less cost from every barrel of oil produced than ever before."

"It is estimated," he declared, "that the sum being expended in research in the manifold divisions of the oil industry exceeds $200,000,000 a year."

In conjunction with the meeting of the Petroleum Division of the Society, symposia on asphalt and the chemistry of gaseous hydrocarbons used in distilling oil products will be held. The first, following immediately after the petroleum program, will be presided over by T. H. Rogers, chief chemist of the Standard Oil Co. of Indiana. The second will be held Tuesday morning and afternoon in a joint meeting with the Division of Gas and Fuel Chemistry. C. A. Lunn, research chemist for the Consolidated Gas Co., will be chairman.

AMERICAN CHEMICAL SOCIETY PROGRAM

Frank W. Hall, Chairman
C. R. Wagner, Secretary; John Jay Hull, Local Assistant
Banquet Room

Monday Morning, April 22

Three Hundred Years of Oil. A Story of Conservation—Gustav Egloff, Universal Oil Products Co.

Separation of a Dimethylcyclohexane Fraction from an Oklahoma Petroleum—R. T. Leslie, Bureau of Standards.

The Isolation of Ethylcyclohexane from an Oklahoma Petroleum—F. W. Rose, Jr., and Joseph D. White, Bureau of Standards.

The Separation of Petroleum Hydrocarbons With Silica Gel—Beveridge J. Mair and Joseph D. White, Bureau of Standards.

(Continued on Page 40)

Revision of April Gasoline Allocations

The Refinery Board of Review, meeting for the purpose of reviewing appeals from gasoline production allocations fixed for the month of April, reported the following appeals and decisions rendered. All decisions granting increases were made subject to the ability of the national coordinator and allied agencies to procure all or any part of the aggregate quantity granted. To the extent that allocations are released or may become available such quantities shall be prorated among those companies to whom awards have been made.

The board advised that the date of the next monthly session would be announced later.

REVISED ALLOCATIONS

Appellant—	Dist. No.	April quota (bbls.)	Increase requested (bbls.)	Award (bbls.)
Taxman Refining Co.	5-A	17,000	23,000	None
Muenster Refining Co.	5-A	250	150	None
Mohawk Petroleum Co.	8	43,750	15,500	None
Col-Tex Refining Co.	5-A	95,000	29,875	20,000
Sinclair Refining Co.	3	494,844	60,156	60,156
Phillips Petroleum Co.	4	.....	See note	.....
Phillips Petroleum Co.	5-A	451,000	54,000	None
Standard Oil Co. (Indiana)	3	1,446,754	276,650	276,650
Magnolia Petroleum Co.	5-B	546,600	353,400	None
Shell Petroleum Corp.	3	362,264	37,736	None
Total		3,957,462	850,467	356,806

Note—No increase requested in District No. 4. Appeal submitted in support of District No. 5-A exception.

Motor Fuel Consumption Declines in January

Motor fuel production declined 1.36 per cent in January of this year compared with the same month last year according to the tax returns compiled by the American Petroleum Institute from state reports. Total gallonage sales this January were 1,145,989,000 gallons compared with 1,161,810,000 gallons a year ago. Substantial declines were recorded in Colorado, Illinois, Missouri, New Jersey and Pennsylvania and increases of major importance were shown in the states of California, Ohio and Texas. The detailed report follows:

GASOLINE CONSUMPTION BY STATES, JANUARY, 1935

	Month of— Jan., 1935 (gallons)	Jan., 1934 (gallons)
Alabama	12,393,000	11,879,000
Arizona	6,071,000	5,768,000
Arkansas	10,266,000	11,210,000
California	101,098,000	87,538,000
Colorado	12,484,000	18,610,000
Connecticut	15,908,000	16,116,000
Delaware	2,565,000	2,634,000
Dist. of Columbia	7,389,000	7,945,000
Florida	24,324,000	22,099,000
Georgia	19,284,000	18,310,000
Idaho	3,325,000	3,480,000
Illinois	67,128,000	71,474,000
Indiana	30,485,000	31,770,000
Iowa	24,640,000	26,857,000
Kansas	26,034,000	25,394,000
Kentucky	14,004,000	13,321,000
Louisiana	13,258,000	14,040,000
Maine	5,977,000	5,645,000
Maryland	13,249,000	14,305,000
Massachusetts	37,329,000	37,535,000
Michigan	52,359,000	54,887,000
Minnesota	24,433,000	27,603,000
Mississippi	10,814,000	11,181,000
Missouri	34,675,000	38,349,000
Montana	3,939,000	4,644,000
Nebraska	15,439,000	17,777,000
Nevada	1,432,000	1,396,000
New Hampshire	4,034,000	3,754,000
New Jersey	44,669,000	48,385,000
New Mexico	3,933,000	3,623,000
New York	106,552,000	108,639,000
North Carolina	20,600,000	19,955,000
North Dakota	4,715,000	4,242,000
Ohio	69,879,000	66,978,000
Oklahoma	23,555,000	23,945,000
Oregon	10,446,000	10,356,000
Pennsylvania	74,501,000	78,065,000
Rhode Island	6,937,000	7,896,000
South Carolina	10,129,000	10,237,000
South Dakota	7,962,000	7,677,000
Tennessee	16,720,000	17,031,000
Texas	71,947,000	65,584,000
Utah	4,334,000	4,307,000
Vermont	2,398,000	2,329,000
Virginia	18,462,000	19,539,000
Washington	15,558,000	17,151,000
West Virginia	10,411,000	10,114,000
Wisconsin	25,456,000	27,483,000
Wyoming	2,489,000	2,763,000
Total	1,145,989,000	1,161,810,000
Daily average	36,967,000	37,478,000
Change from previous year:		
Total change	—15,821,000	.....
Pct. change in daily average	—1.36%	.....

RECORD AUTO PRODUCTION

The production of motor vehicles for the first quarter of 1935 which was the highest since 1929 points to a favorable domestic gasoline consumption over the remainder of the year. The production of 1,108,591 units the first three months represented an increase of 48 per cent over the same period last year. The March production of 447,561 units was a gain of 30 per cent over March, 1934, and 25 per cent over February of this year.

The estimated production based on factory shipments were as follows:

March, 1935	447,561
February, 1935	358,658
March, 1934	345,443
First quarter, 1935	1,108,591
First quarter, 1934	749,532

TRUCKING MONTANA CRUDE

CALGARY, Alberta, Apr. 13.—Lion Refining Co. is trucking crude oil from the northern Montana fields to its refining plant here.

A Leading Soap Maker Says:

PALM AND OLIVE OILS

Leading GASOLINE BLENDERS Say

The primary ingredients of this fine quality soap have been publicized until their significance is as great as the name of the manufacturer. Gasoline blenders who want their names to be synonymous with a knockless, quick-starting, carbon-free, uniform motor fuel, are specializing in the proper natural gasoline blend. And they turn to Warren for their natural gasoline requirements, because Warren specializes only in natural gasoline.

Natural gasoline supplies the proper proportion of volatile hydrocarbons for quick starting. Natural gasoline vaporizes and burns 100% to leave no carbon. Natural gasoline, correctly blended, will smooth out any irregularity in the refiners gasoline and allows him to "build" a motor fuel that answers seasonable demands.

Export Terminal: Norsworthy, Houston, Texas

WARREN PETROLEUM COMPANY

TULSA, OKLAHOMA

MANUFACTURERS, EXPORTERS AND MARKETERS

JUST NATURAL GASOLINE

NATURAL GASOLINE MANUFACTURE

California Technical Committee's Program

The 1935 program of co-operative laboratory and engineering investigations being conducted by the California Natural Gasoline Association holds promise of yielding data of great importance to the natural gas and natural gasoline industry, according to P. S. Magruder, of the General Petroleum Corp., chairman of the association's technical committee. Five committees are actively working on problems dealing with (1) the deviation of natural gas from Boyle's Law; (2) the preparation of a new bulletin on the charcoal test; (3) a study of the new Reid test procedure recently proposed by

P. S. MAGRUDER

A.S.T.M.; (4) the preliminary evaluation of a new method developed by the Standard Oil Co. of California for the controlled weathering of charcoal test condensates under pressure; and (5) the joint participation with the Pacific Coast Gas Association and the Southern California Meter Association in the development of a revised code of gas measurement practice.

Committee No. 1, of which W. C. Dayhuff, of the Standard Gasoline Co., is chairman, has just prepared a chart showing graphically the relationship between Boyle's Law deviations and gas specific gravity over the range 0.55 to 0.85 with an extrapolation to 1.000. The data for the plot were the results of work with synthetic gas mixtures. The mathematical analysis of the results and the drawing of the chart were carried out by W. Helmick of the Shell Oil Co.

Committee No. 2,, of which C. D. Gard, of the Union Oil Co., is chairman, has carried a study of the charcoal test to the point where the committee will soon be ready to publish Part 1 of a new charcoal test bulletin which will deal exhaustively with the technique of saturating charcoal tubes in the field. Apparatus specifications, including tolerances, will be described and the appendix will be filled with the kind of practical information not to be found in books or journal articles. The distillation procedure will be published later as Part 2.

Committee No. 3, of which R. R. Crippen, of the Texas Co., is chairman, has just undertaken the assignment of making a series of comparisons between Reid test values obtained by the present pressure-

(Continued on Page 40)

Noted Automotive Engineers to Appear Before Natural Gasoline Convention

The coming annual meeting of the Natural Gasoline Association of America, scheduled to be held in the Hotel Tulsa on May 1, 2 and 3 promises to be one of the best attended and most important in the 14 years of the association's activities. For the first time, representatives of the automotive industry and the oil industry will meet on the same platform to freely discuss problems of motor fuel volatility. Considerable information has been developed in both the automotive and the refining company research laboratories and road tests have been conducted as a joint endeavor by the two groups, but there have been very few instances where a general and open discussion of the subject could be held.

The Mid-Continent area will be favored in this respect and invitations will go out to about 1,000 natural gasoline plant superintendents, refinery executives and engineers in the form of a 56-page booklet prepared by the Natural Gasoline Supply Men's Association. In addition, the booklet is an attractive compendium of technical data pertinent to natural gasoline manufacture.

Past meetings of the gasoline association have been noted for their free discussion of technical problems upon the convention floor. At this particular meeting the discussion from the floor is being as carefully prepared and scheduled as the formal papers themselves. In most instances the meetings have been attended by a large number of refining company representatives and served as a place to thrash out differences of opinion regarding motor fuel quality and performance and much of the discussion has been on the subject of volatility. The work of Dr. G. G. Brown at the University of Michigan offered the basis of these discussions three and four years ago and then it became apparent that the field of research had to be expanded, and in the past few years active co-operative work has been undertaken with certain automobile manufacturing companies for the purpose of standardizing motor fuels to give optimum motor performance and at the same time bring about changes in motor design to permit the use of those motor fuels which may be most economically manufactured and apparently able to give best performance in the car.

The problems involve moving and insulating the gasoline feed line in some instances, shielding the carburetor, etc., each motor manufacturer taking care of his particular problem in his own way. There was a general improvement in engine design but complaints continued to come to oil companies regarding vapor locking and the automobile engineers complained there was not sufficient uniformity in gasolines to permit them to designate exacting specifications and that the wide range of motor fuel quality represented waste.

To this end the program of the second day is arranged to bring together in friendly discussion Mr. A. E. Becker of the Standard of N. Y. and Mr. T. B. Rendell of the Shell Petroleum Corp., representing the refining industry, Messrs. T. A. Boyd of General Motors Corp., and J. B. McCauley of the Chrysler Corp., representing the motor manufacturers and Dr. G. G. Brown of the University of Michigan representing the natural gasoline manufacturers. The papers to be presented by these men will represent the viewpoints of their respective industries on the subject of volatility and may be expected to produce a brilliant discussion from the floor of all the points of argument and differences between the fuel and motor car manufacturers. Each of the individuals named is recognized as an authority in his field and the papers and discussions will provide a liberal education on the technical problems involved in the satisfactory manufacture and marketing of both fuel and automobile.

The Natural Gasoline Supply Men's Association will again furnish lunches to those attending the convention and will provide entertainment in the form of a dance on Wednesday night and a smoker on the following evening.

Program, Fourteenth Annual Convention,
NATURAL GASOLINE ASSOCIATION OF AMERICA
May 1, 2, 3, 1935

May 1—1:30 p.m.

Welcoming Address.
President's Address—D. C. Williams, Continental Oil Co.
Appointment of Nominating Committees.
Reports of Standing Committees:
- Technical Committee—R. C. Alden, Phillips Petroleum Co.
- Gas Contract Committee—J. W. Cowles, Shell Petroleum Corp.
- Gas Testing Committee—E. C. LeFevre, Empire Oil & Refining Co.
- A.P.I. Committee on Measuring, Sampling and Testing Natural Gas and Natural Gasoline—F. E. Rice, Phillips Petroleum Co.

Paper: "The Petroleum Code and Committee 'J'," William F. Lowe.

May 2—9:30 a.m.

Symposium on Motor Fuel Volatility Trends and the Effect on Automotive Engine Design and Performance.
- A. E. Becker, Standard Oil Co. of New Jersey.
- T. B. Rendell, Shell Petroleum Corp.
- J. B. Macauley, Chrysler Corp.
- T. A. Boyd, General Motors Corp.
- G. G. Brown, University of Michigan.

May 3—9:30 a.m.

Paper: "Stage Separation of Crude Oil Oil-Gas Mixtures," Prof. R. L. Huntington, University of Oklahoma.
Paper: "Natural Gasoline and Motor Fuel Allocations," Fred VanCovern, Planning and Coordination Committee.
Paper: "Bureau of Mine Statistics on Natural Gasoline Production and Distribution," J. Don Nevius, U. S. Bureau of Mines.

Eason Expands Crescent Plant to Take All Gas

Operation began last week using the two new 230-horsepower compressors which were recently installed at the Eason Oil Co.'s natural gasoline plant at Crescent, Okla. Compressors in the plant now total five—all Clarks. The capacity has been approximately doubled in the past three months. The plant is connected into 22 wells in the Crescent Pool. The gasoline content of the gas varies from 2 to 4 gallons per 1,000 feet. Back pressure on the wells is held at about 40 pounds.

At present about 8,500,000 feet of gas are being processed through the plant per day. This amount decreases over weekends when some wells are shut in. About 7,000,000 feet pass through the compressors and boosted to a pressure of 50 pounds. Gas from the Sayton, the discovery well, comes in at 50 pounds and is fed directly to the absorbers.

There is room in the compressor house for two more compressors but the irregular gas supply will not justify further expansions at present. A compressor was added about three months ago, the original number being two.

Chemical Plant Operating on Cracked Gas at Whiting

During March the new plant of the Carbide & Carbon Chemicals Corp. at Whiting, Ind., was placed in operation. The plant occupies part of a 32-acre tract of land lying between the main lines of the New York Central and Pennsylvania Railroads, and faces a main motor highway between Chicago and the East. The plot selected allows ample space for expansion.

The completion of this plant is an additional important step in the development of the chemical industry in this country by this corporation. This development has grown out of fundamental research in organic chemistry originally started to investigate the possibility of manufacturing new products from hydrocarbon raw materials. The raw material used in this plant consists of still gases from the nearby refinery of the Standard Oil Co. of Indiana. The corporation now produces and sells a wide range of chemical products which are used extensively in many industries requiring solvents and related products.

In addition to the increased production from the Whiting Plant, the corporation's manufacturing facilities at South Charleston, W. Va., are being enlarged.

CALIFORNIA MEETING

Presenting a timely discussion of the most important factor in good plant operation, N. C. Wells, gas engineer of the Texas Co. of California's natural gasoline division, will discuss "Safety Methods and Appliances in Gasoline Plant Operations." The paper will deal with safe practices in the boiler room, the engine room, the operation of absorption and distillation equipment, and the proper guidance of the operating personnel.

On the same program F. L. Kallam, of the Industrial Engineers, Inc., will read a paper on his "Continuous Vapor Pressure Recorder." Utilizing a split-stream sample, the continuous recording device raises the sample temperature to 100° F., vents it into a float-regulated vapor pressure chamber, to which is connected a continuous pressure and temperature recorder.

Pennsylvania Operators Looking for Oil Reserves

(Continued from Page 13)

er surface between oil and gas than between oil and water because of the greater specific gravity difference between the former, therefore, less by-passing of oil by gas drive than by water drive. (4) Oil by-passed by gas would remain free draining and would have a long time to flow down dip to join again the main body of oil. (5) Smaller investment in drilled wells required to initiate production because, (a) the edge of the field would not first have to be found, and (b) a much smaller number of input wells would be necessary to introduce gas in the gas free area than to maintain a drive with water. (6) Opportunity to rework the field with water drive after it has been completely worked over by gas drive.

Reconditioning Wells

R. van A. Mills noted several years ago that on a very old lease in southwestern Ohio the pressure had declined to a few pounds and production had fallen to about a quarter of a barrel. Obtaining sand samples, Mills found that the pore spaces were almost completely plugged up with calcium carbonate. New property had been operated without rewells were drilled and came in at 50 to 100 bbls. a day. In Venango County, Pennsylvania, somewhat similar conditions are found. On a lease in Petroleum Center a well which is still producing 30 bbls. a day after three months is located within 50 feet of old wells producing less than half a barrel a day. Bits of sand taken from wells in this district show gypsum deposits. Several miles from this lease, wells on Hog Back Hill in Oil City which had been producing a quarter of a barrel a day were cleaned out and their output increased to from 6 to 14 bbls. a day. These reconditioned wells are holding up well after seven months.

Life of Repressured Properties

Fifteen miles northwest of Oil City a repressuring project was started at Hamilton Corners about 20 years ago when the lease had reached the end of economic operation. There are 98 wells, 550 to 600 feet deep on the 434-acre tract. Twenty-one of the wells are pressure inlet holes. Annual production on this lease today is 10,650 bbls. If the pressuring the output today would be less than 2,000 bbls. a year. In assuring a long life for secondary recovery developments the first requisite is control of input and back pressures to avoid channelling and trapping of oil, and its close second is to avoid clogging of the sand pores by rust or other foreign matter carried in the repressuring or water drive medium. Filters protect the air and gas developments, and water treatment safeguards the water drive operations. Occasional use of hot water, steam, gasoline, calcium carbide, etc., to loosen or dissolve paraffin on the sand face has proven beneficial.

California Technical Committee's Program

(Continued from Page 39)

sampling procedure in use in California and those obtained with the revised test proposed by A.S.T.M. Committee D-2's subcommittee 22. California refiners have been invited to participate.

Committee No. 4, of which H. J. Multer, of the Union Oil Co., is chairman, has inaugurated the study of the new charcoal still developed and recently introduced by the Standard Gasoline Co. This apparatus enables the distillation of saturated charcoal at 30 pounds and 32° F. with a subsequent weathering of the condensates to a predetermined vapor pressure. The first step will be an examination of the method with reference to its ability to weather condensates to 20 pounds Reid.

Committee No. 5, of which P. W. Hill, of the General Petroleum Corp., is chairman, is about to participate in the preparation of a Revised Gas Measurement Code. The work will be done by a joint committee of six, consisting of two members each from C.N.G.A., S.C.M.A. and P.C.G.A. Mr. Hill and W. L. Cowan, of Union Oil Co., have been delegated to represent C.N.G.A.; B. G. Williams, of Southern California Gas Co., and C. B. Heartwell, of the Standard Gasoline Co., will represent S.C.M.A.; and F. A. Hough and P. E. Beckman will represent P.C.G.A.

Export Oil Market Can Be Expanded

(Continued from Page 14)

Compliance with national and local regulations of countries not familiar with oil operations, including inspection fees and special taxes, are among the other situations which are reflected in higher costs. Requirements in regard to heavy inventories to take care of emergency requirements and arbitrary cartel arrangements in the distribution of products are also factors.

It is true that in all cases where individual countries are endeavoring to build up a refining industry there are advantages that accrue to the refiners over importers of finished products in the matter of duties and taxes. These advantages, however, in the light of the increased costs are not as significant as was thought at the time the refinery projects were promulgated.

In this connection it is also true that the changes brought about by the expansion of a domestic refining industry have not been entirely satisfactory to the countries concerned. The refineries are a contribution to the growth of home industries and increased employment but national revenues have suffered through the reductions in the collections of import duties. The danger is that, once the refineries are well established, that taxes will be increased to offset this decline in import revenue.

In the marketing end the advantage also lies with the refiners in this country. A refinery built in a foreign country may have adequate domestic outlets for gasoline but usually there is no satisfactory market for one or more products of the plant. These have to be sold at a sacrifice or transported long distances which detracts from the net plant revenue. In contrast, large refineries located along the Atlantic or Pacific seaboards have the entire world as market for their products. They can arrive at a balance in their domestic and export sales which takes care of every product. If necessary gasoline can be sold in certain countries, with kerosene, wax, lubricating oils, etc., sold in other countries. In brief, the comparison is between a large, well balanced manufacturing and marketing operation in this country with a wide variety of crudes readily available as against a small local refinery in a foreign country usually forced to operate with one or two grades of crude oil.

This matter of having available a wide variety of domestic crude oils is a distinct advantage to refiners is this country. With modern processing methods the foreign crudes such as Venezuela are suitable for the refining of gasoline and fuels but it is either impossible or highly expensive to secure some of the other products. This accounts for the fact that while Iraq crude oil with its high sulphur crude oil is available to European refiners, several of the owners of plants are actively endeavoring at this time to secure American crudes. From the latter they can readily secure quality burning oils, lubricating oils and other products. This situation accounts for the fact that while the gasoline export demand has decreased more than 60 per cent in this country due to the expansion of foreign refineries, the decline in kerosene, lubricating oils and wax is much less.

There are other angles to the present export situation which could be outlined in further proof of the strong position that crude and refinery products in United States have in world markets. The principal danger to this market in the future, according to those in a position to know, lies in the continued lethargy of the industry itself, which may find these valuable outlets bargained off under these intercountry trade agreements to provide foreign buyers for agricultural or manufactured products which have to have a governmental crutch in order to maintain their position in world markets. On the other hand a more aggressive policy may cause the representatives of the Government to realize the desirability of not circumscribing the export operations of one of its major domestic industries with its substantial contribution to the maintenance of favorable trade balances.

Program of American Chemical Society Convention

(Continued from Page 37)

An Apparatus for Measuring the Boiling Points of Lubricating Oils and Other Compounds of High Molecular Weight at Reduced Pressures—S. T. Schicktanz, Bureau of Standards.

Composition of Straight-Run Pennsylvania Gasoline, Fractionation of Straight-Run Gasoline—C. O. Tongberg, D. Quiggle and M. R. Fenske, Pennsylvania State College.

A New Basic Principle in the Design of Fractionating, Absorbing and Other Countercurrent Fluid Reacting Equipment—Walter J. Podbielniak, Industrial Research Laboratories.

Afternoon

The Effectiveness of Tetraethyl Lead in Increasing the Critical Compression Ratio of Some Individual Hydrocarbons—John M. Campbell, Frank K. Signaigo, Wheeler G. Lovell and T. A. Boyd, General Motors Research Laboratories.

Octane Number Improvement in Naphtha Reforming as a Function of the Time-Temperature Integral—S. D. Turner, Humble Oil & Refining Co., and E. J. LeRoi, Standard Oil Development Co.

Characterization of Petroleum Fractions—K. M. Watson, E. F. Nelson and George B. Murphy, Universal Oil Products Co.

Light Effect on Color Stability of Gasoline—J. C. Morrell, Wayne Benedict and Gustav Egloff, Universal Oil Products Co.

The Oxidation of White Oils—Ralph W. Dornte, General Electric Co.

A Rapid Precision Viscometer—Ogden Fitzsimons, Standard Oil Co. of Indiana.

SYMPOSIUM ON ASPHALT

T. H. Rogers, Chairman

Monday Afternoon

Measuring the Susceptibility of Asphalt to Temperature Changes—A. Holmes, J. O. Collins and W. C. Childs, Standard Oil Co. of New Jersey.

Oxygen Absorption Tests on the Constituents of Asphalt—Robert R. Thurston and Edwin C. Knowles, Texas Co.

Energy Relations at the Interface Between Asphalt and Mineral Aggregate and Their Measurements—Charles Mack and R. K. Stratford, Imperiol Oil, Ltd.

SYMPOSIUM ON THE CHEMISTRY OF GASEOUS HYDROCARBONS

C. A. Lunn, Chairman

Tuesday Morning, April 23

Improvements in Effusion Method for Determining the Specific Gravity of Gases—W. E. Kuhn, L. C. Kemp, Jr., and J. F. Collins, Jr., Texas Co.

Determination of Gaseous Olefins or Hydrogen by Catalytic Hydrogenation—Wallace A. McMillan, Howard A. Cole and A. V. Ritchie, Texas Co.

The Mechanism of Thermal Decomposition of the Paraffins—Louis S. Kassel, Bureau of Mines.

The Formation of Alicyclic Hydrocarbons from Free Radicals—F. O. Rice and O. L. Polly, Princeton University.

Kinetics of Ethylene Polymerization II—H. H. Storch, Bureau of Mines.

Relations of Thermal Reactions of Gaseous Paraffins, Olefins, Acetylenes and Cycloparaffins—Gustav Egloff and Edith Wilson, Universal Oil Products Co.

The Polymerization of Propylene—Frank C. Whitmore and Robert F. Marschner, Pennsylvania State College.

Afternoon

Cracking and Polymerization of Low Molecular Weight Hydrocarbons—P. K. Frolich and Peter J. Weizevich, Standard Oil Development Co.

Pyrolysis of Gaseous Paraffin Hydrocarbons—Hans Tropsch and Gustav Egloff, Universal Oil Products Co.

Catalytic Polymerization of Gaseous Olefins by Liquid Phosphoric Acid—V. N. Ipatieff, Universal Oil Products Co.

Pyrolysis and Polymerization of Gaseous Paraffins and Olefins—F. W. Sullivan, Jr., R. F. Ruthruff, and W. E. Kuentsel, Standard Oil Co. of Indiana.

The Production of Gasoline by Polymerization of Olefins—C. R. Wagner, The Pure Oil Co.

Gasoline from Cracking Still Gases—V. N. Ipatieff, B. B. Corson and Gustav Egloff, Universal Oil Products Co.

Refinery Market Remains Strong in Chicago Area

(Continued from Page 34)

mand and prices are hardly so firm. Industrial fuels are quite firm at prices which have shown little or no change for some time. Some expect heavy industries to show more improvement soon.

Wax

A better tone is being shown in wax. Prices are unchanged but indicated demand and inquiries are better. Stocks remain rather heavy.

Heating Oils

One of the interesting features of the burning oils is the way in which the domestic heating products have been holding their own so late in the season. Little of this material has been offered and those who happen to be in need of prime distillate or some other items are finding the sources of supply decidedly few.

Solvents

Solvents and naphthas are quiet and little changed. This market is featureless with a little underpriced material persisting. V.M.&P. has had a fair call lately.

Coke

Coke is now quiet, as expected, but the tone is reported good and a moderate amount is moving.

JOHN T. JAMES DIES

NIAGARA FALLS, Ontario, Apr. 13. John T. James died here on April 10, at the age of 81 years. A native of England, he was at one time local manager of the Provincial Natural Gas Co. F. W. James for many years prominent in the Ontario natural gas industry is a brother.

E. L. McCANN DIES

Eugene Leroy McCann, 63 years old, an oil driller, died at his home in Tulsa last week. He was a native of Pennsylvania and came to Tulsa 20 years ago.

New Field Is Discovered in Live Oak County; Deep Sand Found in Eastern Hidalgo County

HOUSTON, Tex., Apr. 15.—The discovery of a new field in Live Oak County and a deep sand discovery in eastern Hidalgo County, together with the favorable showings encountered in several wildcat tests, and the extension of the Loma Novia Field, Duval County, and a south extension to the Barbacoas Field, Starr County, made another interesting week of developments in the Southwest Texas district.

Approximately 4 miles northeast of the McNeil Field, Live Oak County, in the Curry Survey, Smith-Story and Houston Oil Co. added an important field to the district when their No. 1 Frederick was completed for an initial production of 300 bbls. of 45 gravity oil through a one-quarter inch choke, with tubing pressure 700 pounds and casing pressure 1,250 pounds. Production is coming from 7 feet of Yegua sand bottomed at 5,208 feet. Seven-inch casing was cemented at 5,195 feet.

The completion of the test as a producer proves the existence of a large structure, and will no doubt cause an extensive development program throughout the county. The test is on a 423-acre lease, with Smith and Story owning a one-half interest and Houston Oil Co. a one-half interest. The latter company owns approximately 18,500 acres, extending to the Lucas Field 2 miles south and thence to the McNeil Field, 4 miles east. A 4-inch pipe line is being built by Houston Oil Co. to a loading rack at Mount Lucas, approximately 3 miles south. Acreage near the well is being sold as high as $150 per acre.

The discovery of the field, and the completion of Lion Oil & Refining Co.'s No. 4 McNeil, in the McNeil Field, as a large producer last week, is starting an extensive development program, with no less than six wildcat tests scheduled to get under way. South of Oakville, and on the east bank of the Nueces River, Henderson Coquat is moving in material for his No. 1 Reagan. Near the northwest corner of Bee County, on the Veckert 320-acre tract, Neversuch Oil Co. has spudded its test in the W. T. Hatton Survey. Adams and Lyles are reported to have made plans to drill their large block out of the Georgewest ranch. Gem Oil Co. is taking a large block out of the Tom Lyne ranch in the western part of the county, on which he will announce location at an early date. Southwest of Oakville, it is reported several independents are assembling a large block for early development.

One mile northeast of the McNeil Field much attention is being centered on J. O. Whittington's No. 1 Little, in the M. M. Shipp Survey, which is preparing to drill plug and test at a total depth of 5,607 feet. Seven-inch casing was cemented at 4,980 feet.

Hidalgo County

In eastern Hidalgo County, Union Sulphur Co.'s No. 1 American Rio Grande Land and Irrigation Co., a wildcat north of Mercedes, which has held the attention of operators in this district for the past two weeks due to it coring 16 feet of saturated sand from 7,477-93 feet, was washed in the first part of the week and began showing 100 pounds closed in pressure and little tubing pressure. While cleaning itself through a one-quarter inch choke, the working pressure on the tubing rose to 600 pounds and the shut-in casing pressure rose to 1,000 pounds. Under these pressures the well was flowing approximately 400 bbls. of fluid per day, of which 7 per cent was 48½ gravity oil. It was tested for about 30 hours on various chokes ranging from a one-eighth to an inch, when the pressure increased to 2,250 pounds on the tubing and 2,500 pounds on the casing, at which time the well quit flowing. It is the general belief that the high gas pressure cut the screen, causing it to collapse, which stopped the oil flow. The operators have killed the well and pulled the tubing in attempt to examine the screen for possible replacement.

It is the opinion of many that the well is producing from the Frio sand, the same formation found productive in many of the deep fields on the upper Gulf Coast. While the Frio sand is found productive in the Sam Fordyce Field in the same county at approximately 2,900 feet, it seems a bit unusual for the same formation to be found at a much greater depth; however, the formation dips considerably toward the coast.

Credit for the discovery of this large structure goes to the McCollum Exploration Co., headed by Burton McCollum of Houston. The area was worked by the company in 1933 by reflection seismograph shooting which defined the structure. A block of 20,000 acres was taken by the company and turned to the Union Sulphur Co., which has been developing the area for the past two years. This is the fourth test to be drilled on the block by the company.

Duval County

Two miles north of the Loma Novia Field, in Survey No. 73, Duval County, Al Buchanan's No. 1 Ruiz was being swabbed the latter part of the week, and the pressure had not built up enough to flow the well. Bottomed at 2,716 feet, it indicated an extension to the field, when the operators recovered 31 thribbles of pipe line oil on a 20-minute drill stem test from 2,703-16 feet, through a five-sixteenths inch choke on top of a one-quarter inch choke on bottom. Seven-inch casing was cemented at 2,705 feet. One mile south of the above test Claud Hamill's No. 1 Ruiz was preparing to make a drill stem test in sand showing oil and gas, which was encountered from 2,633-47 feet and from 2,647-53 feet. It is reported to be running approximately 17 feet higher on the sand than the Buchanan test mentioned above.

In the extreme northern part of the county, Henderson and Harvey's No. 1 Chernosky, a wildcat 5 miles east of the Eagle Hill Field in Survey No. 226, indicated the discovery of a new field, when it flowed 10 bbls. of pipe line oil per hour for three hours before going dead. The well was swabbed again and then started making almost 100 per cent salt water. Since the 7-inch casing was cemented in the well with 30 sacks, and considerable cement was found in the pipe when the plug was drilled, it is believed the salt water is coming from up the hole due to a poor cement job. A soft water sand was cored from 2,109-14 feet, with the oil sand cored from 2,212-24 feet, the total depth. The operators are carrying the well down to test the Government Wells sand, and if production is not obtained, it will be plugged back and another test made of the shallower sand.

While the above test was showing for a producer another wildcat 8 miles southwest of San Diego in Survey No. 291, was being marked up as a failure. It is Pearson Properties' No. 1 Fitzsimmons which made a 10-minute drill stem test from 4,425-38 feet, the total depth, and recovered 20 fourbles of salt water and 3 fourbles of mud through a one-quarter inch choke on bottom and a five-sixteenths inch choke on top. Although the contract depth is 5,000 feet, it is understood the test will be abandoned at its present depth.

San Patricio County

A possible pool opener has been indicated by the wildcat of Plymouth Oil Co.'s No. 1-C Welder, 10 miles east and slightly north of the town of Sinton in San Patricio County, which recovered 400 feet of 42 gravity oil on a 11-minute drill stem test from 5,490-5,504 feet, the total depth, the test made through a one-quarter inch choke on bottom and a three-eighths inch choke on top, with the pressure building up to 25 pounds. The test is located on a block of approximately 10,000 acres of the Welder ranch, and will be tested during the week.

Starr County

Two miles south of the Barbacoas Field, Starr County, Conway and Emanuel's No. 1 Starr County Cattle Co., indicated an extension to the field when it showed for a small well from oil sand cored at 2,709-17 feet, the total depth. The well was washed with oil and flowed under its own pressure until it had cleaned itself of the wash oil and then quit flowing. It was washed again and started making some brackish water with oil, and the operators have decided to plug back to an upper sand at approximately 2,288-98 feet.

Bee County

Another extension looms for the Caesar Field, Bee County, by the showing being made by Worth Oil Co.'s No. 1-A Rutledge which is reported to have cored saturated Pettus sand from 3,389-94 feet and is preparing to cement casing without making a drill stem test. It is approximately 4 miles southwest of production in the Hadley Survey.

Wildcat Operations in Southwest Texas

Week Ending April 13

ATASCOSA COUNTY

Southwestern Dev. Synd., Ltd.'s No. 1 Tom, 938 ft. from N line, 427 ft. from E line of fence on R.R. right of way, Edward O'Boyle Sur.
Drlg. 1,100 ft.; show of gas.

BANDERA COUNTY

W. B. Kyle et al's No. 1 Duke, 200 ft. NW line, 150 ft. SW line of J. A. Bennett Sur. No. 7.
Waiting on rig; drlg. wtr. well.

Plateau Oil Co.'s No. 1 Garrison G.C.&S.F Sur. No. 506, 1,500 ft. from W and 2,970 ft. from N lines of survey.
Drlg. 3,533 ft.

BASTROP COUNTY

Hiram Edwards' No. 1 Murchison, 11,200 ft. from NW line, 4,200 ft. from SE line, Addison Litton Sur.
Drlg. 2,073 ft.

Malone & Owens' No. 1 Spooner, 500 ft. from N line, 3,550 ft. from SW line of Leverenz Sur.
Drlg. 695 ft.

Marts & Beavens' No. 1 Miller, 235 ft. from NE line, 414 ft. from SE line of Blk. 22, Dykes Sur.
Drlg. 2,798 ft.

BEE COUNTY

Cecil Hagan and Eastland Oil Co.'s No. 1 Fred Schroeder, 5 miles SW of Green, 925 ft. NW line, 1,179 ft. SW line, Sarah Louis Sur.
Abd. 2,809 ft.

Dirks Bros.' No. 1 Geo. Ray, 2,000 ft. S of Jamison's No. 1 Campbell, 990 ft. from N line, 150 ft. from W line of 80-ac. tract, Blanchard Sur. 133.
Drlg. 2,220 ft.

Firm Oil Co.'s No. 1 Copeland, 1,650 ft. from N line, 330 ft. from E line of lease, B. O. Hadley Sur.
Rigging up.

Haines-McMillan Oil Corp.'s No. 1 Stoltzfus, 150 ft. from N and E lines of NE¼ NE¼ NW¼ Sec. 14.
Spudded.

Hartsendorf's No. 1 fee, 990 ft. from N line, 4,290 ft. from W line of 200-ac. tract, George Kerr Sur.
Coring ahead at 3,648 ft.

Humble O. & R. Co.'s No. 2 Thompson, 466 ft. SW of SE cor. of J. C. Wood tract, Wm. Burke Sur.
Threatening to blow out at 5,405 ft.

Philmont Corp.'s No. 1 T. J. Ernest, 466 ft. from SE cor. of J. C. Madray 216-ac., thence 460 ft. NW along survey line, thence S of R/A 466 ft., Bee County School Sur.
Drlg. 2,365 ft.

Paul L. Meaders' No. 1 Emil Kellar, in NE cor. of Keller tract, 330 ft. from N line, 330 ft. from E line, Sec. 28, of the M. Alcorte Sur.
Rigging up.

Worth Oil Co.'s No. 1-A Rutledge, 100 ft. S of No. 1, B. Q. Hadley Sur.
Setting csg. 3,394 ft.

BEXAR COUNTY

Campbell's No. 1 Cantu, offsetting Meador's No. 1 Cantau, 150 ft. SW line, Arocha Sur. No. 15.
T.D. 1,481 ft.; I.P. 12 bbls. per day on pump.

N. G. Carter's No. 1 F. Bilhartz, 150 ft. from N and E lines of lease, F. Rolen Sur.
Drlg. 675 ft.

Byron Rife's (Dorine Oil Co.) No. 1 Tudyk (315 acres), 500 ft. W, 350 ft. N of NW cor. of Sidney Heywood's 61-ac. tract, F. Cardinas Sur.
Drlg. 1,625 ft.

Jones & Kieffer's No. 1 LaGrane, NW cor. of tract, 330 ft. each way, F. Rolen Sur.
T.D. 1,010 ft.; drlg. plugs.

McPhee & Briggs' No. 1 F. Lamb, 9,200 ft. from S line, 800 ft. from W line of Sur. No. 3.
Drlg. 1,400 ft.

Geo. O'Neil's No. 1 Holly Crouch, NW cor. of 150-ac. tract.
Swbng. 1,395 ft.

Carroll C. Raborn's No. 1 Claude McCauley, 150 ft. from N and NW lines of tract in Sec. 52, Wm. Harrison Sur.
Drlg. below surface csg.

C. C. Raborn's No. 1 A. B. Stephens, 1,630

(Continued on Page 47)

Houston Oil Show Had Record Total Attendance

HOUSTON, Tex., Apr. 15.—The sixth annual Oil Equipment and Engineering Exposition, held at Houston the past week, closed Saturday night, with a record total attendance estimated at approximately 100,000. More people visited the show daily this year than on any one day of the 1934 exposition, the heaviest day being Saturday, when approximately 35,000 people passed through the gates.

Dates for the seventh annual Oil Equipment and Engineering Exposition, in 1936, will be April 20-25, inclusive, and approximately 90 exhibitors have already signed.

The feature of the first day's program was the awarding of cups for the best booth. The first prize went to Halliburton Oil Well Cementing Co. of Duncan, Okla.; second prize was awarded to George Failing Supply Co. of Enid, Okla., and third prize went to the Texas Iron Works of Houston.

Another interesting feature was the world's championship first aid contest. Sixteen teams entered. First prize, a large cup, went to Shell Petroleum Corp. of Houston. Another prize for the best team in artificial respiration went to the Magnolia Petroleum Co. refining department team from Beaumont.

Many men from foreign fields visited the show, including A. S. Hudson, engineer, Standard Oil Co. of New Jersey, Aruba, Dutch West Indies; K. Wamaki, engineer, Mitsui & Co., Tokyo, Japan; J. W. Bradbury, manager of the Mexican Gulf Oil Co., Tampico, Mexico; G. V. Harrison, drilling superintendent, Trinidad Leaseholds, Ltd., Port of Spain, Trinidad, B.W.I.; G. N. Berjetz, chief engineer, oil field equipment division of the Azneft Oil Trust, Baku, U.S.S.R.; Oswald Hammerin, vice president of the Oswego Oil Co., Oswego, Denmark; and J. C. Steketee, drilling superintendent of the Astra-Romana Co., Campina, Rumania.

Twenty-Two Locations in West Texas Area; Fifty-Four in North Texas and 19 in Panhandle

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Apr. 15.—Locations in the West Texas district increased by 4 this week over last week to 22. Fifteen tests were completed, one proving a 2-mile extension to a small pool in northern Crane County. Four wildcat tests were abandoned as was an outpost test to a small field in Glasscock County.

Ector County held the interest of West Texas operators when International Petroleum Corp.'s No. 1 E. F. Cowden, in the SE cor. Section 25, Block 44, Township 1s, T.&P. Survey, topped the pay at 4,137 feet, striking increases in oil at 4,147 feet to total depth of 4,160 feet where it shut down in lime to pull casing. It filled 3,200 feet with oil after shutting down and appears as a probable producer, the second producer in this wildcat area which is 4 miles west of the Addis Pool, and 2½ miles west of Weekly Oil Corp.'s gasser in Section 33, Block 43. Elevation of the test is 3,032 feet.

Gulf Production Co.'s No. 1 Goldsmith, a wildcat in Section 10, Block 44, Township 1s, T.&P. Survey, 4 miles southeast of the Landreth Production Co.'s discovery in Section 20, Block 44, Township 1n, and 5 miles southwest of the Cowden Pool, is drilling in lime at 3,900 feet showing 1,000,000 feet of gas.

Andrews County

Andrews County got two dusters during the week, both wildcats, in the northern part of the county. York and Harper's No. 1 Hereford Stock Farms, in Labour 12, League 315, Parmer County School lands, was dry at a total depth of 5,004 feet. Stogner and others' No. 1 Richardson, in Section 4, Block A-37, P.S.L. Survey, struck sulphur water at 4,700 feet, and was plugged at 4,770 feet.

Reagan County

Skelly Oil Co. and others' No. 1 Grayson-University, Section 33, Block 8, 6 miles south of the Big Lake Field, Reagan County, is being plugged back to shoot and test a showing of oil encountered in the Permian lime between 3,000 and 3,100 feet. It was drilled to 9,967 feet in quest of production in the Ordovician lime, from which 25 wells have produced in the Big Lake Field, but it failed to pick up any likely looking deep showing and was bottomed at this depth for the past few weeks, the owners finally deciding to plug back and try for regular Permian production. Other wells in this area are now being produced from the Permian lime.

Reeves County

A test that looks disappointing is Cunningham and others' No. 1 Altman, in Section 1, C. C. Wyatt Survey, Reeves County. This test formerly had a good showing of gas, but has drilled to 4,030 feet with contract depth at 4,070 feet without further showings of oil or gas. It is flowing sulphur water. Delaware sand was drilled at 3,770 feet. Elevation is 2,908 feet.

Winkler County

Sid Richardson's No. 1 Walton, in Section 1, Block B-3, a wildcat 5 miles northeast of Kermit in Winkler County, struck a showing of gas at 2,352 feet this week and is drilling past 2,725 feet. Elevation is 2,947 feet.

Another well has been brought in on the trend between the Howe and Halley areas east of the Hendricks Field in Winkler County. This well, Barnsdall Oil Co.'s No. 1 Brown, in Section 6, Block B-5, is south of a well completed last week by Jefferies, Fox and others in the same section, which is 2 miles south of Kermit. The Barnsdall well was shot with 110 quarts from 3,103-3,208 feet, total depth, and flowed 175 bbls. the first 13 hours after shooting and while still cleaning out.

Another well was brought in in the Howe area, Winkler County. This well is owned by Sayre Oil Co., which brought in the sandy lime discovery in Section 12, Block 26, several months ago, and around which other wells have been completed and several others are drilling. This area and the Halley area, about 12 miles to the south, are the two most active wells in the county and are expected to be linked by production. If they are linked, they will give the county its second major oil producing area, and about 3 miles apart, both running parallel to the north and south, which will make them unique fields from this standpoint.

Glasscock County

John I. Moore and others' Ordovician test on the L. S. McDowell ranch, in Section 22, Block 34, Township 2s, T.&P. Survey, Glasscock County, is expected to be shot or acidized, or both, between 9,471 and 9,946 feet, total depth. Testing after shooting or acidizing will be closely watched as the test had exceptionally good showings of high gravity oil between these depths. The same operators abandoned their Permian lime test just south of the small McDowell Field, east of the Ordovician test. This shallower test is in Section 21, same block and survey. Total depth is 2,546 feet. Elevation is 2,328 feet.

WICHITA FALLS DISTRICT

There were 54 locations staked in the Wichita Falls district this week with 46 completed, 22 producers. A new pay horizon was encountered in the Andress Pool of Cooke County. Petroleum Producers Co.'s No. 7 G. T. Andress and others, in the J. Clark Survey, 400 feet southeast of production, logged a sand from 1,190-92 feet and drilled to 1,197 feet before shutting down to test. It flowed 75 bbls. per hour and was shut in for storage. The regular pay zone in this area is found around 1,300-1,400 feet, and the striking of this new shallower sand pay adds possibilities to the pool in which many nice producers have been completed.

Possibilities of oil being found in deeper pay horizons in the old shallow area northeast of Electra in Wichita County, lends interest to this area in which R. R. Clark and others' No. 39 Bickley, in Section 2, C.&M. Survey, logged an oil sand from 1,802-10 feet this week. It made 35 bbls. of oil in 24 hours. The regular shallow sand is found around 840 feet, and many of the older producing shallow wells will undoubtedly be drilled in quest of this deeper production.

Sales and Leases

Arco Oil Co. has sold a 49½-acre lease from S. F. Loy and others, in the William Donoho Survey, Montague County, to Bourland and Cannon of Wichita Falls. Seven wells in the 800-foot pay horizon, with a total daily production of 6 bbls., are on the lease. Several of the wells are to be drilled deeper.

Ed T. Cox and others have leased a 717-acre block centering in the E. M. Kelly Survey, Young County, and are to drill a 2,700-foot cable tool test within 90 days. This area is 2 miles southeast of the Bunger area and 1 mile east of the sand producers around Oil City.

E. M. Campbell and others of Abilene have leased a 2,000-acre block centering in the D. F. Maberry Survey, Fisher County, and are to spud a 3,250-foot cable tool test within 30 days. This location will be 800 feet north and east of the old Hucony Gas Co.'s dry hole on the Maberry farm. That test went to 3,250 feet and had several showings of oil and gas in the Fisher County lime. It is south of McCaulley.

Pierson and Hoffman are to drill a 2,000-foot cable tool test on a 2,000-acre block centering in Section 22, Block 14, T.&P. Survey, Jones County.

Barnsdall Oil Corp. has made location for No. 1 Mrs. Sam C. Stone in Section 26, Austin-Williams Survey, on a 5,000-acre block in southeastern Stonewall County. Several other large companies hold acreage in the vicinity.

Production in the district averaged 62,900 bbls. per day during the week, a 325-bbl. per day decline from last week.

PANHANDLE DISTRICT

There were 19 locations staked in the Panhandle district this week with 16 wells completed, all producers except one in Wheeler County.

Production in the field averaged 55,685 bbls. per day this week, a decrease of 6,208 bbls. under last week.

Remo Oil Co. struck a salt water hole this week in No. 1-B Hunter which was abandoned at a total depth of 2,270 feet. This test is in the Osborne Pool east of Shamrock in Wheeler County, Section 47, Block 13, H.&G.N. Survey.

About 8,000 acres are reported to have been blocked southwest of the town of Wheeler, north of the western extension in Wheeler County, and in Block 9, and a 2,500-foot test is to be drilled. Another block, consisting of 5,000 acres in northern Donley County, is expected to be drilled within 90 days. This block is 14 miles north of Clarendon on the E. B. Johnson ranch.

WICHITA FALLS COMPLETIONS

Archer County

L. T. Burns' No. 1 Sallie F. Hutcheson, total depth 1,402 feet, dry and abandoned. Cullum and Alexander's No. 30 Falls, total depth 1,208 feet, top pay 1,194 feet, initial production 50 bbls. per day; No. 31 Falls, total depth 1,088 feet, top pay 1,069 feet, initial production 75 bbls. per day. Daniels Drilling Co.'s No. 1 I. Gathright, total depth 800 feet, dry and abandoned. H. D. Egger and others' No. 1 Central Hanover Bank Trust Co., total depth 1,410 feet, dry and abandoned. Fain-McGaha Oil Corp.'s No. 5 E. R. Fain, total depth 1,796½ feet, top pay 1,783 feet, initial production 10 bbls. of oil and 40 bbls. of water per day. W. B. Hamilton's No. 1-A John Purcell, total depth 2,074 feet, dry and abandoned.

Lanfair Brothers and others' No. 1 Carrie Threat, total depth 1,153 feet, dry and abandoned. Mack Oil Co.'s No. 6 J. S. Bridwell, total depth 927 feet, dry and abandoned. A. L. Matlock and others' No. 1 Mankins and others, total depth 275 feet, temporarily abandoned. McCarty Oil Co. and others' No. 1 L. F. Wilson, total depth 1,623 feet, dry and abandoned. Perkins and Cullum's No. 157 Falls, total depth 1,117 feet, top pay 1,091 feet, initial production 25 bbls. per hour swabbing; No. 160 Falls, total depth 1,177 feet, top pay 1,156 feet, initial production 70 to 80 bbls. per hour flowing; No. 7 Falls (Carey), total depth 1,208 feet, top pay 1,193 feet, initial production 40

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Wildcat Operations in West Texas

Week Ending April 18

ANDREWS COUNTY

Fuhrman Pet. Corp.'s No. 2 Ford, 440 ft. from S and 1,320 ft. from E, Sec. 16, Blk. A-43.
Material.

Honolulu & Llano Oil Co.'s No. 1-B Parker, 440 ft. from N and 1,650 ft. from E, Sec. 11, Blk. A-43.
Elev. 3,281 ft.; drlg. 1,058 ft.

Humble Oil & Ref. Co.'s No. 3 Means, 660 ft. from N and 1,997 ft. from E, Sec. 9, Blk. A135.
T.D. 4,525 ft.; made 264 bbls. in 7 hrs.

Humble Oil & Ref. Co.'s No. 4 Means, 654 ft. from S and 1,997 ft. from W, Sec. 4, Blk C-45.
S.D. 1,106 ft.; elev. 3,185 ft.

Stogner et al's No. 1 Richardson, 1,980 ft. N and 660 ft. E, Sec. 4, Blk. A-37, P.S.L.
Show gas 4,440 ft.; drlg. 4,635 ft.

J. W. Trippiehorn's No. 1 Ogden, 330 ft. from S and 2,310 ft. from W lines of Sec. 6, Blk. A-46, P.S.L. Sur.
Cellar and pits.

Wahlenmaier et al's No. 1 Odessa Ranch Co., 1,320 ft. from N and E of Sec. 10, Blk. A-32, P.S.L. Sur.
T.D. 795 ft.; running csg.

Wahlenmairer et al's No. 1 Cox Estate, 1,320 ft. from N and W of Sec. 8, Blk. A-33.
Location.

BREWSTER COUNTY

F. C. Dodson's No. 1 Texas American Syndicate, 660 ft. from N and E, Sec. 66, Blk. 10, G.H.&S.A. Sur.
Drlg. 825 ft.

Joiner et al's No. 1 McIntyre, 353 ft. from S, 2,390 ft. from E of Sec. 21, Blk. 352, W. M. Mitchell Sur.
S.D. 2,150 ft.

King & Franklin's No. 1 Gage Est., C Sec. 138, Blk. 22, G.H.&S.A. Sur.
S.D. 800 ft.

G. H. Storey's No. 1 Wilson, 1,980 ft. from N and E lines of Sec. 3, Blk. 212, T.&St.L. Sur.
Drlg. 118 ft.

S. G. Smith's No. 1 Decie, 2,490 ft. from S and E, Sec. 7, Blk. 1.
Drlg. 815 ft.

COCHRAN COUNTY

Kelsey's No. 1 Slaughter, C Labour 26, League 150, R.C.S. Lands.
Derrick.

West Texas Development Co.'s No. 1 Slaughter, near C of Labour 53, League 149, Randall Co. School Lands.
Derrick.

COKE COUNTY

Haggerty et al's No. 1 Gaston, 340 ft. from S and 654 ft. from W, Sec. 11, Jos. Young Sur. (old well deepening).
T.D. 2,808 ft.; straightreaming.

CRANE COUNTY

Cranfill Bros.' No. 1 Tubbs, 330 ft. from S and W of Sec. 11, Blk. B-27, P.S.L. Sur.
Drlg. 572 ft.

Gulf Prod. Co.'s No. 1 M. B. McKnight, 660 ft. from S and W, Sec. 9, Blk. B-21.
Standard tools rigged.

Gulf Prod. Co.'s No. 1 Waddell, C NW NW Sec. 4, Blk. B-27, P.S.L. Sur.
Drlg. 4,482 'ft.

Wahlenmaier Pet. Corp.'s No. 1 Kloh, 330 ft. from S and 1,609 ft. from W, Sec. 33, Blk. 44, Twp. 3s, T.&P. Sur.
T.D. 3,695 ft.; plugged back to 3,600 ft.; shot 480 qts. 3,270-3,600 ft.; C.O. and swabbing 30 bbls. day.

CROCKETT COUNTY

Eppenauer Drlg. Co.'s No. 1-C Powell, 1,600 ft. from S and 250 ft. from E, Sec. 53, Blk. B.B.
Elev. 2,665 ft.; T.P. 2,515 ft.; T.D. 2,556 ft.; bldg. storage.

Leslie-Hiller et al's No. 1 Todd, 1,200 ft. N and 330 ft. E, Sec. 26, Blk. WX, G.C.& S.F. Sur.
S.D. 580 ft. for casing.

Humble Oil & Ref. Co.'s No. 1 Couch, C NW Sec. 3, Blk. QR, G.C.&S.F. Sur.
Temporarily abnd. 1,881 ft.; elev. 2,538 ft.

(Continued on Page 46)

Camp Hill Area Now Showing for an Oil Field; Extended to West But Disappointing in South

By L. E. BREDBERG

DALLAS, Tex., Apr. 15.—The Camp Hill area, 7 miles southeast of Palestine in Anderson County, is now showing for an oil field, extending west, but proving disappointing to the south as the result of No. 1 M. J. Ross, in the southwest corner of a 40.2-acre tract, in the Robert Erwin Survey, being dry at total depth of 5,480 feet. Top Georgetown 5,465 feet. This test is about 1 mile south and a little west of the Gulf Production Co.'s No. 1 Davey and Royall discovery in the M. Rogers Survey, now producing around 150 bbls. high gravity oil per day from the Sub-Clarksville formation.

Offsetting the M. J. Ross dry hole to the west, Gulf Production Co. is drilling No. 1 J. M. Delaney, which has little encouragement now. South of the Delaney test the company is putting down a test on the Flint and Scott farm, which seems unlikely to be a producer. A test on the Calloway farm, in the P. Martin Survey, north of the Delaney test, and northwest of the M. J. Ross dry hole, may also be dry, although it has better chances since it is in the direction of the Maddox test, which appears sure of making a producer.

Discovery Well

The discovery well, Gulf Production Co.'s No. 1 Davey and Royall, was completed in February, after plugging back from the Woodbine at 5,969 feet where it showed salt water, to 5,059 feet. It was first completed as only a gasser, but has since started making oil testing 54 gravity. It is producing from the Sub-Clarksville, above the Woodbine.

The same company's No. 1 L. B. Ross, about one-half mile west of the discovery, is shut down at 5,137 feet making an estimated 148 bbls. of oil into pits, flowing through one three-eighths inch tubing choke. Gravity of this oil is around 41. The same company's No. 1 M. Maddox, nearly 1 mile west of the discovery, set pipe at 5,170 feet, with total depth at 5,192 feet. On a 10-minute drill stem test it showed 2,600 feet of oil, a considerable western extension which can be extended in other directions except past the Ross test to the south. The company has a large block of leases, running mostly north and southwest, and also southeast and west of the discovery, but ending about 1 mile to the east. Many of the leases were expiring in March, but the company obtained extensions. Several machines were moved in to drill shallow tests in quest of Carrizo sand production, but so far only one shallow test has proved a producer, and that was a gasser, a twin well to the south of the Davey and Royall discovery. This test is producing from the Carrizo sand at 485 feet. Other tests will no doubt get under way immediately, especially since the two new wells have shown for producers, and leases must be tested or lost. Gulf Pipe Line Co. is expected to lay a connecting line from its Mid-Continent-Gulf Coast line about 20 miles to the east.

Maps show the Sun Oil Co. holding a 110-acre lease offsetting the tract on which the discovery well is located. If this is correct Sun Oil Co. will be forced to make two locations, one offsetting the discovery to the west and one offsetting the L. B. Ross producer to the east. The area is now the most interesting in the East Texas district, and more drilling is expected right away, with operators holding leases to the east, testing them. The area is apparently to produce only from the Sub-Clarksville formation, above the Woodbine sand.

Gulf Production Co.'s wildcat on the O. G. Rogers farm, 5 miles southwest of Elkhart, in Anderson County, is down 5,375 feet where it cored shale. It is in the Daniel Parker Survey, and does not appear any too promising.

Freestone County

Daniels Oil & Royalty Co.'s No. 2 Ball, in the J. Y. Aguilera Survey, about 1,400 feet northeast of the discovery gasser, about 3 miles south of Turlington in Freestone County, showed considerable gas through one three-eighths inch choke when tested at 4,817-35 feet. Casing is to be set and another test made. The discovery well came in making 10,000,000 feet of gas when plugged back from a total depth of 5,003 feet where it showed salt water, to 4,865 feet. A test drilled to the west proved dry.

Last week it was reported the Tide Water Oil Co. had farmed out the George Forrester tract in the D. Cherry Survey, 2½ miles northeast of Baxter, between Athens and LaRue in Henderson County. T. L. Wynne and others are now building rig, preparatory to drilling a Woodbine sand test. Mr. Wynne is chief counsel for the American Liberty Oil Co., Dallas.

Hunt Production Co. and Sun Oil Co. are moving in material for a joint try in the Slocum area of southern Anderson County, 1,000 feet southeast of a dry hole drilled by Byrd and Frost last year. It is on the Mrs. Alice Scott farm, in the Joseph Crawford Survey.

J. H. Foster and others have rigged up for a Woodbine sand test 4 miles southeast of Wills Point, in Van Zandt County, 330 feet out of the southeast corner of the Breucher tract, in the D. Clapp Survey.

Monterey Oil Corp., Wichita Falls, is drilling a wildcat in Van Zandt County, about 5 miles southeast of Martin's Mill, on a 3,300-acre block, located in the southwest corner of the north 640 acres of the John Wilson Survey in the center of a 77-acre tract on the S. E. Cox fee, depth on April 12 was 2,300 feet.

Farther north Wilson, Moore and Smith have shut down on their recently spudded test on the Mrs. M. Rogers farm, in the James Saunders Survey, on the edge of the town of Trenton. Total depth is 582 feet.

A newly spudded Woodbine test in northeast Hunt County is being drilled by W. H. Harrison of Tyler for the J. F. Morrissey Co., Inc., of Fort Worth, 543 feet from the north and 200 feet from the west lines, in the B. F. Fry Survey, 7 miles northeast of Commerce. The company holds a 4,500-acre block assembled on geophysical showings and subsurface geology worked by Claude Dally, independent geologist, of Fort Worth.

A group of Dallas operators is to drill a Woodbine sand test in southwestern Camp County, on the W. M. Mitcham farm in the Rose Survey, north of the town of Newsome. Hubbard Brothers and E. J. Moran hold around 8,000 acres in the block.

Sun Oil Co. abandoned No. 1 Longley and Reeves wildcat, in the Jonathan Lindley Survey, 5 miles northeast of Chappel Hill, in Smith County, total depth 4,002 feet. A test in the shallow sand area north of the Van Field, Van Zandt County, was abandoned.

Hill and Hill have abandoned No. 1 J. J. Phillips, in the James M. Moore Survey, 5 miles south of Winnsboro in Wood County, at a total depth of 4,737 feet. The Woodbine was topped at 4,717 feet, 100 feet lower than McElreath and Suggett dry hole to the south.

Cayuga Field

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 21-A Wills, Trinity sand test in the Cayuga Field, northwest Anderson County, in the S. Edmondson Survey, is shut down at 7,125 feet for repairs. The two companies are completing No. 2 J. A. Campbell, in the James Wilson Survey, about 7,000 feet southeast of the nearest oil producer in the Cayuga Field, as a gasser after plugging back from 4,068 feet where it struck salt water, to 3,955 feet. They also completed No. 3 Sullenberger as a gas well, bottomed at 4,036 feet. The sand was topped at 3,880 feet. This gasser is on the southwest edge of the field, about two locations northwest of an oil well in the Trinity River.

EAST TEXAS FIELD

Locations dropped to 98 in the East Texas Field, while completions decreased to 101, seven less than last week, although one company stated it was stopping all drilling except necessary offsets, which will keep it busy for some time as it holds leases throughout the field, and many independent leases surround many of them.

At the end of March the Railroad commission's reports showed a total of 16,610 wells producing in the field. Of this, 7,770 wells were owned by independents, the commission classing several of the larger integrated units as independents. Major companies owned 8,840 wells. The total daily potential of the 16,610 wells was 13,904,733 bbls. at that time.

Pumpers and Extensions

Of the wells completed this week three were reported as pumpers and two were completed swabbing. Sanders' No. 1 Cooper, in the Ximinez Survey, about 4,000 feet east of production in the Joiner area, Rusk County, while extending production, will have to be placed on the pump. It logged the pay from 3,556 to 3,690 feet, and is one of the many extension tests drilled on this side of the field that has added a large new productive acreage. New productive acreage revisions will show that these eastern extensions have not only proven valuable, but have also enlarged the field to a considerable extent. Extensions have been so numerous no one pays much attention to one, even though it be a mile or more.

Lease Trades

Bond Oil Corp. has sold its M. Rufus 5-acre lease in the Mary Van Winkler Survey, Gregg County, to Rancho Oil Co. of Fort Worth. One well is located on this lease.

Tide Water Oil Co. farmed out its Elder lease in the Mary Van Winkler Survey, Gregg County, retaining 5 acres around each of the two wells, assigning the remaining 72.84 acres to J. G. Beard. Mr. Beard and the Stewart Holding Co. also purchased the east 19 acres of the Tide Water's F. K. Lathrop lease in the William Robinson Survey, north Gregg County.

Cabot Carbon Co. of Boston purchased Rio Oil Corp.'s 106½-acre T. C. Graves lease in the M. Irwin Survey, Upshur County, containing nine wells, recently purchased by Rio Oil Corp. from Hickman and Beard.

C. L. McHahon of Tulsa has purchased Hunter Co.'s 93½-acre Spear lease in the A. Norris Survey, Gregg County, containing 10 wells.

There have been no producing lease purchases made in the field by major units for some time.

COMPLETIONS IN EAST TEXAS

Gregg County

Adams N. Lyle's No. 13 Anderson, top pay 3,491 feet, total depth 3,495 feet, initial production 95 bbls. in 1½ hours. Arkansas Fuel Oil Co.'s No. 10 Adrian-McCrary, top pay 3,550 feet, total depth 3,575 feet, initial production 38 bbls. in 15 minutes; No. 6-B Smith, top pay 3,527 feet, total depth 3,550 feet, initial production 27 bbls. in 15 minutes; No. 7 Snoddy, top pay 3,565 feet, total depth 3,590 feet, initial production 30 bbls. in 15 minutes. Atlantic Oil Producing Co.'s No. 12 Anderson, top pay 3,457 feet, total depth 3,500 feet, initial production

East Central Texas Wildcats

Week Ending April 13

ANDERSON COUNTY

Gulf Prod.'s No. 1 M. Maddox, David Stitz Sur., 330 ft. out of SE cor. of 120-ac. tract and survey.
Drlg. 5,190 ft.; base Austin 5,184 ft.

Gulf Prod. Co.'s No. 1 Delaney, in P. Martin Sur., 340 ft. N along E line of Delaney 209.37-ac. tract from SW cor. of Ross' 39.67 acres, and 300 ft. at R/A.
Derrick.

Gulf Prod. Co.'s No. 1 Calloway, P. Martin Sur., 305 ft. from S and 330 ft. from E. Location.

Gulf Prod. Co.'s No. 1 L. B. Ross, J. C. Rosson Sur., 330 ft. S and E of 35-ac. tract.
T.D. 5,137 ft.; 500,000 ft. of gas; to set csg.

Gulf Prod. Co.'s No. 1 Flint & Scott, 385 ft. S along E line from NE cor. of 56.75-ac. tract and 330 ft. at R/A.
Location.

Gulf Prod. Co.'s No. 1 O. G. Rogers, 330 ft. out of NW cor. of D. Parker Sur., 5 miles SW of Elkhart.
T.D. 5,285 ft.; making test.

Gulf Prod. Co.'s No. 1 M. J. Ross, 1,770 ft. from SW and 1,370 ft. from NW lines of Robt. Erwin Sur.
Elev. 487 ft.; coring 5,475 ft.

Hunt & Son Oil Co.'s No. 1 Scott, 1,196 ft. from N and 330 ft. from W lines, Jos. Crawford Sur.
Location.

J. W. Lutes' No. 1 C. McKee, 2,640 ft. from N line of lease and survey and 330 ft. from W line of McKey 300-ac. tract.
Derrick.

Roeser & Pendleton's No. 1 Wathen, 467 ft. out of SE cor. of tract and B. Towles Sur.
Rigged up.

Tide Water-Seaboard's No. 1 J. Smith, John Adams Sur., 668 ft. W of E line and 467 ft. N of S line of 41-ac. tract (Long Lake area).
Drlg. 1,825 ft.

Tide Water Oil Co. et al's No. 21-A Wells, 4,079 ft. N and 2,333 ft. W of lease, S. Edmondson Sur. (Trinity test).
Drlg. 7,075 ft.

BOWIE COUNTY

Tex-Ark. Oil Co.'s No. 1 Hamilton Estate 600 ft. E and 350 ft. N lines, J. Milan Sur., 4 miles S of Red River.
T.D. 250 ft.

CHEROKEE COUNTY

Jacksonville O. & G. Co.'s No. 1 H. D. Henderson, 660 ft. from N and W lines of 40-ac. tract out of Tankersley 104-ac. tract, 5 miles NE of Jacksonville, J. Pineda Sur.
S.D. 693 ft.

Ponta Oil Co.'s No. 1 C. W. Darby, 1,944 ft. S and 630 ft. W of East Cyrus Parks Sur., 2¼ miles S of Summerfield.
T.D. 1,385 ft.

Wilson Stubbs Oil Co.'s No. 1 Rowborts, 450 ft. from S line, 150 ft. from W line of 100-ac. tract, 2 miles SW of Jacksonville, J. D. Wolfin Sur.
S.D. 1,553 ft.

T. J. Woods et al's No. 3 New Birmingham Dev. Co., 1,320 ft. from S and 150 ft. from E lines of 160-ac. tract, L. Jordan Sur., NE of No. 1.
Material.

(Continued on Page 47)

90 bbls. per hour; No. 14 Wilson, top pay 3,582 feet, total depth 3,644 feet, initial production 100 bbls. per hour.

Bond & Dillar's No. 2 Anderson, top pay 3,498 feet, total depth 3,519 feet, initial production 100 bbls. per hour. Cox & Hammon's No. 12 Lacy, top pay 3,503 feet, total depth 3,545 feet, initial production 72 bbls. per hour. Empire Gas & Fuel Co.'s No. 13 Bander, top pay 3,569 feet, total depth 3,623 feet, initial production 32 bbls. in 15 minutes. Gilcrease's No. 4-B Tooke, top pay 3,490 feet, total depth 3,518 feet, initial production 35 bbls. in 20 minutes. Guiberson Oil Co.'s No. 9 Stucky-Thrasher, top pay 3,565 feet, total depth 3,616 feet, initial production 125 bbls. per hour.

Gulf Production Co.'s No. 8 Clemens, top pay 3,670 feet, total depth 3,700 feet, initial production 17 bbls. in 15 minutes; No. 65 Judge, top pay 3,489 feet, total depth 3,504 feet, initial production 60 bbls. per hour; No. 13 Lacy-Snyder, top pay 3,467 feet, total depth 3,497 feet, initial production 60 bbls. per hour. Hamill & Smith's No. 4 Everett, top pay 3,486 feet, total depth 3,505 feet, initial production 80 bbls. per hour. Humble Oil & Refining Co.'s No. 8 Christian, top pay 3,626 feet, total depth 3,652 feet, initial production 55 bbls. per hour. Magnolia Petroleum Co.'s No. 6 Dyer, top pay 3,530 feet, total depth 3,558 feet, initial production 32 bbls. in 15 minutes; No. 26 Everett, top pay 3,683 feet, total depth 3,689 feet, initial production 132 bbls. per hour.

Selby Oil & Gas Co.'s No. 10-A Snavley, top pay 3,556 feet, total depth 3,571 feet, initial production 38 bbls. in 30 minutes. Shasta Oil Co.'s No. 8-A Campbell, top pay 3,598 feet, total depth 3,610 feet, initial production 90 bbls. per hour. Stanolind Oil & Gas Co.'s No. 4-B Snoddy, top pay 3,576 feet, total depth 3,640 feet, initial production 17 bbls. in 15 minutes. Texas Co.'s No. 21 Lee, top pay 3,518 feet, total depth 3,568 feet, initial production 70 bbls. per hour. Yount Lee Oil Co.'s No. 8-B Smith, top pay 3,505 feet, total depth 3,521 feet, initial production 28 bbls. per hour through one eleven-sixteenths inch choke.

Canadian Oil Co.'s No. 6 Hilburn, top pay 3,655 feet, total depth 3,667 feet, initial production 55 bbls. in 30 minutes. Empire Gas & Fuel Co.'s No. 6 Lockhart, top pay 3,646 feet, total depth 3,654 feet, initial production 22 bbls. in 15 minutes. Gulf Production Co.'s No. 28 Alexander, top pay 3,511 feet, total depth 3,537 feet, initial production 25 bbls. in 30 minutes; No. 7 Andrews, top pay 3,582 feet, total depth 3,616 feet, initial production 96 bbls. per hour; No. 24 Muckelroy, top pay 3,593 feet, total depth 3,608 feet, initial production 70 bbls. per hour.

Hughes' No. 3-A King, top pay 3,708 feet, total depth, 3,710 feet, initial production 30 bbls. in 30 minutes. Humble Oil & Refining Co.'s No. 69-B Laird, top pay 3,545 feet, total depth 3,649 feet, initial production 65 bbls. per hour. Invincible Oil Co.'s No. 14 Weiss, top pay 3,517 feet, total depth 3,527 feet, initial production 125 bbls. per hour. Lacy's No. 5-A Adkins, top pay 3,661 feet, total depth 3,664 feet, initial production 40 bbls. in two hours. Luttes' No. 2 Register, junked and abandoned 2,300 feet.

McGee's No. 1 Young, top pay 3,542 feet, total depth 3,593 feet, initial production 60 bbls. per hour. Magnolia Petroleum Co.'s No. 10 Carr, top pay 3,438 feet, total depth 3,465 feet, initial production 116 bbls. per hour. Overton Refining Co.'s No. 2 King, top pay 3,648 feet, total depth 3,650 feet, initial production 60 bbls. per hour. Tippett's No. 2 Nichols, top pay 3,671 feet, total depth 3,678 feet, initial production 15 bbls. in 15 minutes. McGee's No. 1 Young, top pay 3,542 feet, total depth 3,593 feet, initial production 60 bbls. per hour. Reynolds' No. 2 Elder, top pay 3,550 feet, total depth 3,575 feet, initial production 20 bbls. per hour.

Shell Petroleum Corp.'s No. 8-B Bivens, top pay 3,652 feet, total depth 3,661 feet, initial production 18 bbls. in 30 minutes; No. 11-B Elder, top pay 3,528 feet, total depth 3,588 feet, initial production 37 bbls. in 30 minutes; No. 46 Watson, top pay 3,529 feet, total depth 3,601 feet, initial production 36 bbls. in 30 minutes; No. 51 Watson, top pay 3,558 feet, total depth 3,621 feet, initial production 35 bbls. in 30 minutes. Sun Oil Co.'s No. 18 Beall, top pay 3,626 feet, total depth 3,626 feet, initial production 75 bbls. per hour. Texas-Canadian Oil Co.'s No. 2 Hilburn, top pay 3,637 feet, total depth 3,642 feet, initial production 20 bbls. in 30 minutes. Tide Water Oil Co.'s No. 25 Hughey, top pay 3,498 feet, total depth 3,503 feet, initial production 75 bbls. per hour.

Rusk County

Smith's No. 42 Morse, top pay 3,569 feet, total depth 3,618 feet, initial production 38 bbls. in 30 minutes through three-quarter inch choke. Atlantic Oil Producing Co.'s No. 17 Brightwell, top pay 3,582 feet, total depth 3,614 feet, initial production 120 bbls. per hour. De-Armon and McMillan's No. 11 Roberson, top pay 3,541 feet, total depth 3,644 feet, initial production 8 bbls. per hour, pumping. Everetts Drilling Co.'s No. 8-A Crew, top pay 3,787 feet, total depth 3,788 feet, initial production 128 bbls. per hour.

Gulf Production Co.'s No. 8 Baton, top pay 3,560 feet, total depth 3,646 feet, initial production 30 bbls. per hour through three-quarter inch choke; No. 2 Palmer, to pay 3,583 feet, total depth 3,610 feet, initial production 54 bbls. per hour through three-quarter inch choke. Humble Oil & Refining Co.'s No. 14-A Laird, top pay 3,594 feet, total depth 3,631 feet, initial production 100 bbls. per hour; No. 27-B Sexton, top pay 3,586 feet, total depth 3,678 feet, initial production 26 bbls. per hour; No. 10 Wooley, top pay 3,682 feet, total depth 3,760 feet, initial production 78 bbls. per hour. Magnolia Petroleum Co.'s No. 11 Laird, top pay 3,595 feet, total depth 3,625 feet, initial production 20 bbls. in 15 minutes through 1-inch choke.

Navarro Oil Co.'s No. 20 Brightwell, top pay 3,610 feet, total depth 3,641 feet, initial production 13 bbls. in 15 minutes. Shasta Oil Co.'s No. 4 Alexander, top pay 3,617 feet, total depth 3,635 feet, initial production 42 bbls. per hour. Snowden & McSweeney's No. 20 Laird, top pay 3,575 feet, total depth 3,590 feet, initial production 75 bbls. per hour. Sutton & Hawkins' No. 3 Horton, top pay 3,502 feet, total depth 3,567 feet, initial production 20 bbls. per hour, pumping. Texas Co.'s No. 8 Chappell, top pay 3,731 feet, total depth 3,734 feet, initial production 47 bbls. per hour.

Tide Water Oil Co.'s No. 9-B Bean, top pay 3,588 feet, total depth 3,642 feet, initial production 60 bbls. in 30 minutes. Weaver-Crim Oil Co.'s No. 2-A Bean, top pay 3,700 feet, total depth 3,707 feet, initial production 65 bbls. per hour. Combined Oil Co.'s No. 22 Eaton, top pay 3,739 feet, total depth 3,776 feet, initial production 32 bbls. in 15 minutes. De'Montrant Oil Co.'s No. 6 Pinkston, top pay 3,597 feet, total depth 3,626 feet, initial production 65 bbls. in 30 minutes. E.C.R. Oil Co.'s No. 2 Frederick, top pay 3,530 feet, total depth 3,641 feet, initial production 20 bbls. per hour pumping.

Gulf Production Co.'s No. 13 Grissom, top pay 3,700 feet, total depth 3,706 feet, initial production 59 bbls. per hour, three-quarter-inch choke; No. 10 Thrash, top pay 3,720 feet, total depth 3,735 feet, initial production 53 bbls. per hour, three-quarter-inch choke. Hamilton's No. 3 Thompson, top pay 3,698 feet, total depth 3,718 feet, initial production 120 bbls. in two hours. Humble Oil & Refining Co.'s No. 9 Bank of Overton, top pay 3,696 feet, total depth 3,703 feet, initial production 33 bbls. in 30 minutes.; No. 48-A Kangerga, top pay 3,660 feet, total depth 3,692 feet, initial production 26 bbls. in 20 minutes; No. 6-A Moore, top pay 3,676 feet, total depth 3,698 feet, initial production 128 bbls. per hour.

Hunt Production Co.'s No. 3 Holt, top pay 3,756 feet, total depth 3,776 feet, initial production 32 bbls. in 10 minutes, three-quarter inch choke. Stanolind Oil & Gas Co.'s No. 12 Mason, top pay 3,596 feet, total depth 3,615 feet, initial production 21 bbls. in 15 minutes; No. 19-A Maxwell, top pay 3,726 feet, total depth 3,766 feet, initial production 28 bbls. in 22 minutes. Sun Oil Co.'s No. 4 Cooper, top pay 3,619 feet, total depth 3,661 feet, initial production 17 bbls. in 17 minutes. Turman Oil Co.'s No. 9 Deason, top pay 3,678 feet, total depth 3,716 feet, initial production 20 bbls. in 15 minutes.

Smith County

Henley's No. 2 Wright, top pay 3,693 feet, total depth 3,695 feet, initial production 75 bbls. per hour. Illinois Oil Co.'s No. 27 Mayfield, top pay 3,825 feet, total depth 3,826 feet, initial production 160 bbls. in two hours. McMurray's No. 14 Turner, top pay 3,766 feet, total depth 3,768 feet, initial production 50 bbls. per hour. Magnolia Petroleum Co.'s No. 27 Wright, top pay 3,651 feet, total depth 3,665 feet, initial production 29 bbls. in 15 minutes, 1-inch choke. Medlin's No. 2 Mayfield, top pay 3,825 feet, total depth 3,826 feet, initial production 40 bbls. per hour, one-quarter inch choke. Nash & Roney's No. 4 Wright, top pay 3,706 feet, total depth 3,712 feet, initial production 100 bbls. per hour. Sun Oil Co.'s No. 9-A Denton, top pay 3,756 feet, total depth 3,758 feet, initial production 10 bbls. per hour, one-quarter inch choke.

Upshur County

Alma Petroleum Co.'s No. 5 Watson, top pay 3,641 feet, total depth 3,656 feet, initial production 25 bbls. in 25 minutes. Atlantic Oil Producing Co.'s No. 15 Porter, top pay 3,611 feet, total depth 3,628 feet, initial production 70 bbls. per hour; No. 17 Porter, top pay 3,660 feet, total depth 3,680 feet, initial production 75 bbls. per hour. Barnett and others' No. 1 Tuttle, top pay 3,689 feet, total depth 3,704 feet, initial production 96 bbls. in 30 minutes through 5-inch casing. Clark & Cowden's No. 1 Evers, top pay 3,780 feet, total depth 3,802 feet, initial production 30 bbls. per hour; No. 2 Evers, top pay 3,808 feet, total depth 3,816 feet, initial production 40 bbls. per hour.

Delta Drilling Co.'s No. 1 Hamilton, top pay 3,773 feet, total depth 3,776 feet, initial production 35 bbls. per hour, one-quarter inch choke. Fox & Wood's No. 2 Sanders, top pay 3,593 feet, total depth 3,610 feet, initial production 60 bbls. per hour. Humble Oil & Refining Co.'s No. 16 Johnson, top pay 3,683 feet, total depth 3,707 feet, initial production 86 bbls. per hour. Mullen's No. 1 Johnson, top pay 3,621 feet, total depth 3,626 feet, initial production 150 bbls. per hour. Lee & Burnett's No. 2 Stancil, top pay 3,653 feet, total depth 3,655 feet, initial production 60 bbls. per hour, three-quarter inch choke. Mudge Oil Co.'s No. 12-A Richardson, top pay 3,678 feet, total depth 3,725 feet, initial production 80 bbls. per hour.

Pace & Mitcham's No. 7 Adkin, top pay 3,742 feet, total depth 3,774 feet, initial production 30 bbls. per hour, 1-inch choke. Hart, receiver's No. 1 Starr, top pay 3,577 feet, total depth 3,582 feet, initial production 65 bbls. per hour. Southland and E. & W. Oil Co.'s No. 27 O'Byrne, top pay 3,650 feet, total depth 3,661 feet, initial production 50 bbls. per hour. Southland and others' No. 14 O'Byrne, top pay 3,693 feet, total depth 3,702 feet, initial production 40 bbls. per hour. Sun Oil Co.'s No. 8 Rainey, top pay 3,767 feet, total depth 3,783 feet, initial production 10 bbls. per hour, swabbing. Trail Drilling Co.'s No. 2 Shelton, top pay 3,725 feet, total depth 3,726 feet, initial production 40 bbls. per hour, swabbing.

Smith County

Sun Oil Co.'s No. 1 Longley & Reeves, dry and abandoned at 4,002 feet.

Van Zandt County

Rouch and others' No. 1 Bearden-Palmer, dry and abandoned at 1,237 feet.

Anderson County

Gulf Production Co.'s No. 1 Robinson, dry and abandoned at 854 feet.

Cayuga Field (Anderson)

Tide Water Oil Co. and Texas Seaboard Oil Co.'s No. 3 Sullenberger, top pay 3,880 feet, total depth 4,036 feet, completed for a gas well, no gauge; No. 8 Ware, top pay 4,086 feet, total depth 4,099 feet, initial production 140 bbls. per day.

E. L. Bell Found Dead in Car Near Drumright

E. L. (Ernie) Bell, transportation superintendent for the Deep Rock Oil Corp., with headquarters at Drumright, Okla., was found dead in his automobile near that city early Saturday morning,

E. L. BELL

April 13. A bullet through his head, self-inflicted during a fit of despondency over ill-health and uncertainty of the future, was the cause of death.

Ernie Bell was one of the best-known men in the oil industry production group of the Mid-Continent region, where he has lived since 1908, when he came west for the U. S. Geological Survey from his home in Seaford, Del. Mr. Bell has been identified with the American Petroleum Institute organization work for several years past, and has been one of the principal members of the Drumright chapter and was active in the district meetings held in various cities in Kansas, Oklahoma and Texas.

Mr. Bell would have been 48 years old May 9, and was educated in the public schools of Washington, D. C., and attended University of Delaware at Newark, where he studied civil engineering. After serving for a time in the U.S.G.S. field party, he returned to Oklahoma from Washington, D. C., and went to work for B. B. Jones and later for T. B. Slick in the production department.

Mr. Bell also worked for the Midland Oil Co., later a subsidiary of the Empire Companies, and in 1920, when the Jones & Bermont Oil Co. assets were taken over by the Shaffer Oil & Refining Co., he went with that company. About 1928 the name was changed to Deep Rock Oil Corp., and Mr. Bell continued with the concern.

Mr. Bell is survived by his widow and two daughters, Rosemary and Mrs. Floyd Turner, all of Drumright, Okla. Funeral services were held in Drumright Monday morning with burial at Rose Hill Cemetery, Tulsa.

OIL WELL CEMENTING

C. P. Parsons, of the **Halliburton** Oil Well Cementing Co., **Duncan, Okla.**, will deliver a non-technical talk on "Oil Well Cementing" before the April 23 meeting of the Purchasing Agents Association of Tulsa, in the Tulsa Building. In addition to the talk, Mr. Parsons will show a motion picture entitled "Hell's Wells," which is a collection of views of oil and gas well blowouts and fires. The meeting is open to anyone interested and starts at about 7:30 p.m., after a dinner for the members of the Purchasing Agents Association, starting at 6:15 p.m.

Oil and Power Division Program for Tulsa Meeting

The National Oil and Gas Power meeting is to be held in Tulsa May 8 to 11, under the auspices of the American Society of Mechanical Engineers, Oil and Power Division, and the Mid-Continent Section. Headquarters will be the Mayo Hotel, and the program will include six technical sessions covering the latest developments and problems in the oil and gas power field and in the use of power in pipe line pumping and oil production.

Papers on fuel oil characteristics and central plant transmitting power to wells have been prepared and there will be discussions on allied subjects. A small exhibit of Diesel engine parts and accessories will be held.

Thursday afternoon, May 9, has been set for an inspection trip to the Hominy pump station of the Stanolind Pipe Line Co. near Hominy that should prove of special interest.

The preliminary program follows:

Eighth A.S.M.E. National Oil and Gas Power Meeting, May 8 to 11, at the Mayo Hotel, Tulsa.

Wednesday, May 8

9:40 a.m. Registration and information, sixteenth floor, Mayo Hotel.

11 a.m. Opening session, sixteenth floor, Mayo Hotel.

Chairman, Harte Cooke, chemical engineer, McIntosh & Seymour Co., Auburn, N. Y.

Experiences With High-Speed Diesel Engines in Pipe Line Service, J. B. Harshman, Stanolind Pipe Line Co., Tulsa.

2:30 p.m. Diesel Fuel Session, sixteenth floor, Mayo Hotel.

Chairman, Lester M. Goldsmith, Atlantic Refining Co., Philadelphia, Pa.

Characteristics of Diesel Fuel Oil, W. F. Joachim, Atlantic Refining Co., Philadelphia, Pa.

Thursday, May 9

9:30 a.m. Central Power Plant Session, sixteenth floor, Mayo Hotel.

Chairman, H. F. Brindel, Gypsy Oil Co., Tulsa.

Central Generating Plants Transmitting Power Electrically to Wells, George Bays, Stanolind Pipe Line Co., Tulsa.

Central Power Plants Transmitting Power Mechanically to Wells, Austin Allen, Phillips Petroleum Co.

12 noon, buses leave Mayo Hotel for inspection trip to the Hominy pumping station of the Stanolind Pipe Line Co.

Friday, May 10

9:30 a.m. Morning Session, sixteenth floor, Mayo Hotel.

Chairman, H. W. Carson, University of Oklahoma.

Central Power Plants Transmitting Power Pneumatically to Wells, Paul D. Cornelius, Sullivan Corp., Tulsa.

Diesel and Gas Individual Well Pumping Units, Glenver McConnell, Shell Petroleum Corp., Tulsa.

Insurance of Diesel Engines, H. J. Vandereb, Hartford Steam Boiler Inspection & Insurance Co.

2 p.m., Afternoon Session, sixteenth floor, Mayo Hotel.

Chairman, Ralph Miller, engineer, Ingersoll-Rand Co.

Experiences with Fuel-Injection Equipment in Oil Field Service. Carl Behn, United American Bosch Co., Springfield, Mass.

Compressed Air Transmission With Diesel Locomotives, Carl Bjornsson, engineering department, Clark Brothers, Olean, N. Y.

Saturday, May 11

9:30 a.m., Morning Session, sixteenth floor, Mayo Hotel.

Chairman, H. P. Porter, Mid-Continent Section, A.S.M.E.

Informal discussion of:

Experience of Explosions in Air Piping Due to Fuel Leaking Into Air Systems.

Air Compressor Explosions and Methods of Correction.

Causes and Correction of Corrosion of Bearings and Crankshafts.

Possibility of Control of Combustion Pressures in Solid Injection Engines to Secure Smoother Operation and to Reduce Stresses on Working Parts.

West Texas Fields

(Continued from Page 42)

bbls. per day. I. B. Persky and others' No. 1 L. F. Wilson Estate, total depth 1,635 feet, dry and abandoned.

Petroleum Producers' No. 2 F. Brazina and others, total depth 1,454 feet, top pay 1,445 feet, initial production 70 bbls. per day; No. 6-E J. T. Richardson, total depth 1,256 feet, top pay 1,237 feet, initial production 125 bbls. per day. Pois and Schultz and others' No. 30 F. C. Green, total depth 1,153 feet, top pay 1,134 feet, initial production 60 bbls. per day; No. 32 F. C. Green, total depth 1,180 feet, dry and abandoned. J. M. Seaberry and others' No. 1 J. J. Perkins and others, total depth 611 feet, top pay 606 feet, initial production 20 bbls. per day. J. G. Steele Drilling Co.'s No. 2 J. R. Garvey, total depth 865 feet, plugged and abandoned. Texas Co.'s No. 2 Abercrombie and Taylor, total depth 1,479 feet, dry and abandoned. United Producers' No. 2 J. S. Petty, total depth 807 feet, dry and abandoned.

Clay County

J. E. Keller's No. 5 W. F. George, total depth 313 feet, dry and abandoned.

Cooke County

F. W. Merrick and others' No. 1 G. A. Stelszer, total depth 975 feet, top pay 792 feet, initial production 12 bbls. per day. George L. Pace's No. 7 J. C. Embry, total depth 1,262 feet, top pay 1,251 feet, initial production 2 bbls. of oil and 50 bbls. of water per day. E. J. Ruwaldt and others' No. 4 Andress Brothers, total depth 1,412 feet, top pay 1,396 feet, initial production 300 bbls. per day.

Jack County

Bissey and others' No. 1 Brannon-Smith, total depth 301 feet, top pay 291 feet, initial production 5 bbls. per day. J. Gaines and others' No. 2 W. H. Smith, total depth 317 feet, dry and abandoned.

Montague County

O. V. Beck's No. 15 Mrs. C. L. Davenport and others, total depth 1,709 feet, plugged back to 1,707 feet, top pay 1,700 feet, initial production 42 bbls. of oil per day. Benton and Holmes' No. 7-B C. L. Davenport and others, total depth 1,687 feet, top pay 1,665 feet, initial production 300 bbls. of oil per day. Bourland and Gannon's No. 2 Mrs. F. E. Loy (old well deepened, formerly produced from sand 804-23 feet), new total depth 895 feet, top pay 870 feet, initial production 25 bbls. per day.

Wichita County

H. Andrews' No. 2 A. Honaker, total depth 600 feet, dry and abandoned. Bridwell Oil Co.'s No. 7 Allen and Kemp, total depth 1,025 feet, top pay 1,012 feet, initial production 30 bbls. per day. Burk Royalty Co.'s No. 7 Allen and Kemp, total depth 437 feet, dry and abandoned. L. T. Burns' No. 16 T. Mitchell, total depth 1,306½ feet, top pay 1,304 feet, initial production 10 bbls. per day. Horwitz and Oldham's (formerly W. B. Omohundro and others) No. 1 Will Hodges, total depth 1,655 feet, top pay 1,649 feet, initial production 10 bbls. of oil and 3 bbls. of water per day. George Proctor's No. 5-A W. B. Honaker, total depth 1,020 feet, dry and abandoned. United Oil Corp.'s No. 14 L. P. Douglas, total depth 1,985 feet, dry and abandoned.

Young County

O. T. Anderson Oil Co.'s No. 5 Belknap Coal Co., total depth 725 feet, dry and abandoned. Andrews and others' No. 1 W. F. Hearne, total depth 725 feet, dry and abandoned. Gorsuch Oil Co.'s No. 13 W. O. Matthews, total depth 755 feet, dry and abandoned. B. N. Honea's No. 8 fee, total depth 915 feet, top pay 900 feet, initial production 40 bbls. per day. Rathke Oil Co.'s No. 1 H. O. Prideaux, total depth 672 feet, dry and abandoned. E. R. Riggs' (formerly Brazelton Brothers) No. 1 Birdie Ward, total depth 660 feet, plugged back to 632 feet, top pay 610 feet, initial production 5 bbls. der day. T. G. Shaw Oil Corp.'s No. 9 Marshall estate, total depth 892 feet, top pay 877 feet, initial production 50 bbls. per day.

COMPLETIONS IN WEST TEXAS

Andrews County

York and Harper's No. 1 Hereford Stock Farms, elevation 3,161 feet, dry and abandoned 5,004 feet. Fuhrman Petroleum Corp.'s No. 2-B Boner, elevation 3,189 feet, total depth 4,437 feet, initial production 2,522 bbls.

Crane County

Gulf Production Co.'s No. 9 Waddell, top pay 3,370 feet, total depth 3,543 feet, initial production 677 bbls.

Fisher County

Southern Petroleum Corp.'s No. 1 Parker, top pay 3,095 feet, total depth 3,110 feet, initial production 650 bbls.

Glasscock County

John I. Moore and others' No. 1 McDowell, elevation 2,328 feet, dry and abandoned 2,546 feet. Capitan Oil Co.'s No. 1 Gillian, total depth 2,291 feet, initial production 24 bbls. in one hour, some water.

Howard County

Sinclair Prairie Oil Co.'s No. 13 Dodge, top pay 2,576 feet, total depth 2,806 feet, initial production 150 bbls. per day, pumping.

Jones County

United Producers Co.'s No. 1 Wood, dry and abannoned 2,002 feet.

Runnels County

Agnew and Curry's No. 1 Wade, temporarily abandoned 2,558 feet. Blaylock's No. 1 McGaughey, abandoned 560 feet.

Tom Green County

Jacobs and others' No. 1 DeLong, dry and abandoned 462 feet. Elevation is 2,092 feet.

Upton County

Gulf Production Co.'s No. 110 McElroy, top pay 2,745 feet, total depth 2,932 feet, initial production 757 bbls. per day.

Ward County

California Co.'s No. 4 Gordon, top pay 2,312 feet, total depth 2,550 feet, initial production 445 bbls. Eastland Oil Co.'s No. 1 Richter, top pay 2,270 feet, total depth 2,623 feet, plugged back to 2,582 feet, shot with 280 quarts from 2,384-2,582 feet, initial production 1,039 bbls. Richardson's No. 19-B Sun-Johnson, top pay 2,396 feet, total depth 2,676 feet, shot with 46 quarts from 2,586-96 feet, initial production 128 bbls. per day.

COMPLETIONS IN PANHANDLE

Carson County

Dixon Creek Oil & Refining Co.'s No. 1-G McConnell, top pay 2,485 feet, total depth 2,660 feet, initial production 60,000,000 feet of gas.

Gray County

Continental Oil Co.'s No. 8 Wright, top pay 2,815 feet, total depth 2,887 feet, initial production 1,746 bbls. per day on gas lift. Dixon Creek Oil & Refining Co.'s No. 7 Horner, top pay 3,214 feet, total depth 3,260 feet, shot 290 quarts from 3,181-3,256 feet, initial production 290 bbls. per day pumping. Hoffman Oil Co.'s No. 6 Finley, top pay 2,900 feet, total depth 2,998 feet, shot 400 quarts from 2,890-2,998 feet, initial production 412 bbls. per day pumping. Kewanee Oil & Gas Co.'s No. 5 Morgan, top pay 3,230 feet, total depth 3,297 feet, shot 360 quarts from 3,197-3,297 feet, initial production 310 bbls. per day pumping. Sinclair Prairie Oil Co.'s No. 8 Moody, top pay 2,839 feet, total depth 2,931 feet, initial production 831 bbls. per day with 15,000,000 feet of gas. Sun Oil Co.'s No. 6 Combs-Worley, top pay 2,920 feet, total depth 2,923 feet, initial production 741 bbls. per day. Turman Oil Co.'s No. 1-B Bowers, top pay 3,060 feet, total depth 3,230 feet, initial production 1,150 bbls. of oil and 17 bbls. of water pumping.

Hutchinson County

Crosbie, Inc.'s No. 6 Pitts, top pay 2,860 feet, total depth 2,940 feet, initial production 337 bbls. per day pumping.

Wheeler County

Alma Petroleum Co.'s No. 10 Johnson, top pay 2,395 feet, total depth 2,469 feet, initial production 565 bbls. per day with 30,900,000 feet of gas. Bell Oil & Gas Co.'s No. 1-A Walker, top pay 2,420 feet, total depth 2,440 feet, initial production 62 bbls. per day. Champlin Oil & Refining Co.'s No. 3 Edes, top pay 2,480 feet, total depth 2,550 feet, initial production 839 bbls. per day with 50,000,000 feet of gas. Gibson Oil Co.'s No. 10 Bentley, top pay 2,330 feet, total depth 2,333 feet, initial production 21 bbls. of oil and 33 bbls. of water pumping. Remo Oil Co.'s No. 1 Hunter, dry and abandoned 2,270 feet. Phillips Petroleum Co.'s No. 7 Lela, top pay 2,335 feet, total depth 2,543 feet, initial production 3,978 bbls. per day. Smith Brothers' No. 2 Massey, top pay 2,035 feet, total depth 2,147 feet, initial production 51,700,000 feet of gas.

Gasoline Stock Position Corrected During March

WASHINGTON, D. C., Apr. 15.—A reduction during March of approximately 1,500,000 bbls. in the allocated production of gasoline has placed the refining industry in a much more stable position than would have been possible had it continued to pile up stocks as during January and February.

The National Gasoline Inventories Committee set, for attainment on March 31, a total of 66,278,000 bbls. of gasoline stocks for the country as a whole. The trend during January and February, continued during March, would have piled up stocks of approximately 67,828,000 bbls. This excess did not become apparent until after the first of March, and occasioned much concern to the office of National Coordinator John Shatford.

The national coordinator on March 1 asked companies holding large inventories for actual stocks held February 28. A comparison of the figures showed that 30 companies held excess stocks on that date amounting to 1,412,000 bbls. As a result all refiners were asked, on March 9, to reduce voluntarily the March gasoline manufacturing by the amount of the excess.

Between March 11 and March 25 more than 1,400,000 bbls. of gasoline allocations were voluntarily retired from manuture, with the effect of curtailing the supply and consequently reducing stocks approximately to the objective as set out by the inventories committee.

New Federal Agency Is Named for East Texas

WASHINGTON, D. C., Apr. 16.—Organization of the Federal Petroleum Supervisory Agency and appointment of G. W. Van Fleet as director and supervisor of investigators was announced today by Secretary Ickes. The new agency will operate exclusively in the East Texas Field and will have charge of all investigations pertaining to tenders.

Administrator Ickes directed the Federal Tender Board to turn over to it all files of the Kilgore and Tyler offices, and he directed Louis R. Glavis, director of investigations of the Interior Department, to have the personnel of his division in East Texas, and the files, offices and equipment pertaining to oil, transferred to Mr. Van Fleet.

LOUIS GORHAM DIES

Louis Gorham, 62, died of pneumonia in Ada, Okla., where he had gone a short time ago to accept a position in the oil fields. A native of West Virginia, Mr. Gorham knew the oil business intimately. For years he held a responsible position with the Continental Oil Co. of Denver.

More Completions and Less New Operations

While there were 190 more wells completed in all fields east of California in the longer month of March than during February, new operations recorded a slight decline, there being 9 less new rigs erected. Initial production of new oil wells showed a big increase due chiefly to the fact initial production of completed wells in Oklahoma during March was based on a 24-hour gauge while February initial production represented only short gauges on new wells in flush or prorated pools.

SUMMARY OF ALL FIELDS
Rigs and Wells Drilling

	Rigs	Dig.	Ttl.
Pennsylvania Grade	74	187	261
Lima	4	34	38
Central Ohio	38	121	159
Indiana	0	37	37
Illinois	0	9	9
Kentucky	6	11	17
Michigan	118	135	253
Kansas	50	222	272
Oklahoma	83	454	537
North Central Texas	76	143	219
West Texas	45	124	169
Texas Panhandle	54	93	147
East Central Texas	18	26	44
East Texas	84	226	310
East Texas gas field	4	14	18
Gulf Coast, Texas	34	118	152
Southwest Texas	42	159	201
North Louisiana	21	66	87
Gulf Coast, Louisiana	14	72	86
Arkansas	11	47	58
Alabama	1	3	4
Florida	1	0	1
Mississippi	3	13	16
Montana	11	45	56
Wyoming	7	66	73
Colorado	2	29	31
New Mexico	32	34,171	7 1
Utah	1	13	14
Total March	816	2,554	3,370
Total February	827	2,670	3,497
Difference	9	116	127

SUMMARY OF ALL FIELDS
Wells Completed

	Comp.	Prod.	Dry	Gas
Pennsylvania Grade	191	448	13	29
Lima	7	33	2	2
Central Ohio	20	63	9	8
Indiana	15	85	2	9
Illinois	2	70	1	0
Kentucky	9	538	0	1
Michigan	18	550	6	5
Kansas	95	83,154	28	5
Oklahoma	114	267,155	38	8
North Central Texas	222	12,040	96	5
West Texas	70	49,403	13	1
Texas Panhandle	62	32,885	4	9
East Central Texas	16	240	11	0
East Texas	459	24,397	11	1
Gulf Coast, Texas	70	28,365	25	3
Southwest Texas	107	19,722	33	12
North Louisiana	23	475	12	3
Gulf Coast, Louisiana	29	15,133	7	1
Arkansas	7	1,152	3	1
Alabama	1	0	1	0
Mississippi	1	0	1	0
Montana	5	463	0	0
Colorado	1	1,440	0	0
New Mexico	32	34,171	1	1
Wyoming	5	460	1	1
Total March	1,581	572,442	324	105
Total February	1,391	236,997	302	138
Difference	190	335,445	22	33

Solvent Refining to Be Feature at Penn State

(Continued from Page 16)

Simmons points out that corrosion of pipe lines and growth of organic material are in many cases nullifying the effects of filtration since the flood water cannot be introduced directly into the sand after filtration. He will discuss also the various chemical and mechanical means by which it is possible to insure clean water at the sand face and will show that the cost of such treatment is small compared with the possibilities of increased recovery. Mr. Simmons graduated from the school of mining engineering of Pennsylvania State College in 1925. Following this he was connected with the Ingersoll-Rand Co. Later he was employed as an engineer by the Sloan & Zook Co. of Bradford. Since 1929 he has been with his present connection conducting a general consulting geological and engineering business.

NEBRASKA WOULD TAX GAS

The Nebraska Legislature has been asked by Senator O'Brien of Grand Island to impose a tax of 5 cents per thousand feet on natural gas piped into the State. The bill is supported by the coal trade, the railroads and fuel oil distributors.

West Texas Wildcats

(Continued from Page 42)

CULBERSON COUNTY

Anderson-Prichard Oil Corp., Magnolia Pet. Co. et al's No. 1 Borders, 1,255 ft. N and 2,305 ft. from W, Sec. 34, Blk. 69, P.S.L. Sur.
Drlg. 1,125 ft. on iron.

Miller Bros.' No. 1 fee, 1,900 ft. from N and 660 ft. from E line of Sec. 21, Blk. 97, P.S.L. Sur.
S.D. 2,137 ft.; slight show gas here.

Wood et al's No. 1 Hall, 250 ft. from S and 85 ft. from E, Sec. 11, Blk. 54½, 16 miles N of Van Horn, P.S.L. Sur.
S.D. 246 ft.

DAWSON COUNTY

Adams & Turner's No. 1 John Robinson, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 46, Blk. M, E.L.R.R. Sur.
T.D. 4,860 ft.; to abandon.

ECTOR COUNTY

Atlantic Oil Prod. Co.'s No. 1 T. P. Land Trust, 440 ft. from N and W of SE Sec. 11, Blk. 43, Twp. 1s, T.&P. Sur.
T.D. 4,391 ft.; plugged back to 4,265 ft.; acidized; 2,000 ft. water in hole when tested.

Barnsdall Oil Corp.'s No. 2 Smith, 330 ft. from S and W lines of Sec. 1, Blk. 43, Twp. 1s, T.&P. Sur.
Elev. 3,064 ft.; drlg. 1,629 ft.

W. A. Black & Sons' No. 3 Connell, 330 ft. from S and 1,310 ft. from W lines of Sec. 1, Blk. B-16, P.S.L. Sur.
Drlg. 2,320 ft.

Callahan et al's No. 1 Connell, 330 ft. from N and 990 ft. from W, Sec. 10, Blk. 36, Twp. 1s.
T.P. 3,515 ft.; drlg. 3,570 ft.

Empire Gas & Fuel Co.'s No. 1 Cummins, 440 ft. from S and E, Sec. 10, Blk. 45, Twp. 1n, T.&P. Sur.
Drlg. 2,480 ft.

Gulf Prod. Co.'s No. 1 Goldsmith, C of NW, Sec. 10, Blk. 44, Twp. 1s, T.&P. Sur.
Drlg. 3,660 ft.

International Pet. Corp.'s No. 1 Cowden, 660 ft. from S and E, Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.
T.P. 3,924 ft.; drlg. 4,075 ft.

Landreth Prod. Co.'s No. 1-B O. B. Holt, 660 ft. from N and 1,980 ft. from E lines of Sec. 19, Blk. "A," P.S.L. Sur.
Drlg. 775 ft.

Landreth Prod. Co.'s No. 1 Cowden Heirs, 440 ft. from S and W, Sec. 18, Blk. 44, Twp. 1n, T.&P. Sur.
Drlg. 2,980 ft.

Landreth Prod. Co.'s No. 2 Scharbauer, 2,200 ft. from N and 440 ft. from W, Sec. 13, Blk. A.
Material.

Penrose et al's No. 1 Kloh & Rumsey, 2,310 ft. from S and E, Sec. 31, Blk. 45, Twp. 1s, T.&P. Sur.
Elev. 3,154 ft.; drlg. 2,886 ft.

C. L. Peters' No. 1 Connell, 330 ft. from N and E lines of NW of Sec. 12, Blk. B-16, P.S.L. Sur.
Rigged up standard tools.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Kinkel, 190 ft. from N and 550 ft. from E, Sec. 237, A.T.&S.F Sur.
Drlg. 125 ft.

FISHER COUNTY

George Callihan et al's No. 1 Herring, 2,310 ft. from S and 330 ft. from W lines of Sec. 192, Blk. 1, B.B.B.&C. Sur.
Elev. 1,804 ft.; drlg. 828 ft.

Tide Water Oil Co. and others' No. 1 W. E. Hittson et al, 1,320 ft. from N and 660 ft. from W, Sec. 177, Blk. 2, H.&T.C. Sur.
Material.

GARZA COUNTY

N. L. Richards' No. 1 Sullivan, 330 ft. from N and W, Sec. 3, Blk. 5, K. Aycock Sur.
Elev. 2,534 ft.; drlg. 1,737 ft.

GLASSCOCK COUNTY

Luce & Pickens' No. 2 Turner, 1,650 ft. from N and 2,310 ft. from E lines of Sec. 19, Blk. 33, Twp. 2s, T.&P. Sur.
Drlg. 1,430 ft.

John I. Moore et al's No. 1 J. S. McDowell, 1,980 ft. from N line and 660 ft. from E line of Sec. 22, Blk. 34, Twp. 2s, T.&P. Sur.
Topped lime 9,471 ft.; show oil and gas 9,484-9,520 ft.; cmtd. 7⅝-in. csg. at 9,470 ft.; increase oil 9,594-9,600 ft. and 9,633-55 ft.; S.D. 9,936 ft. to test.

HOWARD COUNTY

Clay Bros. & White's No. 1 Read, 330 ft. from S and 1,650 ft. from W, Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Location.

Dorn et al's No. 1 Kloh, 330 ft. from S and E, Sec. 45, Blk. 30, Twp. 1n, T.&P. Sur.
Elev. 2,287 ft.; T.P. 2,585 ft.; T.D. 2,791 ft.; swabbed and flowed 239 bbls. in 12 hrs.

C. Henson et al's No. 1 B. Scott, 330 ft. from N and 1,650 ft. from E, Sec. 93, Blk. 29, T.&P. Sur.
T.D. 1,332 ft.; swabbed 23 bbls. in 10 hrs.

John I. Moore et al's No. 1 Snyder, 330 ft. from S and W, Sec. 28, Blk. 30, Twp. 1s, T.&P. Sur.
Location.

Iron Mountain Oil Co.'s No. 6 Reed, 330 ft. from S and W lines of Sec. 46, Blk. 30, Twp. 1n, T.&P. Sur.
Drlg. 682 ft.

Slagel's No. 1 Foster, 990 ft. from S and 330 ft. from W, Sec. 43, Blk. 29.
T.D. 2,240 ft.; ran csg.

JEFF DAVIS COUNTY

C. M. Joiner's No. 1 Jones & Coffield, 770 ft. from N and 1,322 ft. from E, Sec. 8, Blk. 3, H.&T.C. Sur.
Drlg. 850 ft.

JONES COUNTY

Campbell et al's No. 1 Rowell, in E hair of W half, Sec. 6, T.&P. Sur.
T.D. 950 ft.; fishing.

Campbell et al's No. 1 Enevill, 1,400 ft. from N and 270 ft. from W, Sec. 2, M.E.&P. Sur., ½ mile S of Anson.
Drlg. 2,205 ft.

Cal-Tex Oil Co.'s No. 1 Smith, 1,400 ft. from S and 2,000 ft. from E, Sec. 26, Blk. 19, T.&P. Sur.
Drlg. 2,510 ft.

Fondran Prod. Co.'s No. 1 S. R. Cox Jr., 200 ft. from S and 3,700 ft. from E, Sec. 74, Blk. 14, T.&P. Sur.
T.D. 2,290 ft.; to run csg.

Dr. C. E. Johnson's No. 1 Young, 1,800 ft. from N and 750 ft. from W of SE 200 acres of B. Travenio Sur.
Drlg. 1,936 ft.

Owen et al's No. 1 Johnson & Dunwoody, 3,750 ft. from S and 330 ft. from W, Sec. 6, Blk. 17, T.&P. Sur.
Spudded and S.D.

Richards et al's No. 1 Ransom, 200 ft. from N and E, Sec. 244, B. M. Clopton Sur.
S.D. 750 ft.

Robb & Brewer's No. 1 Evans, 200 ft. from S and E lines of N half of Sec. 7, Blk. 15, T.&P. Sur.
Drlg. 1,178 ft.

Sandyridge Oil Co.'s No. 1 P. Jones, 660 ft. from S and W of NW¼, Sec. 5, Blk. 15, T.&P. Sur.
Rigged up machine.

T. O. Shappell's No. 1 Steele, 330 ft. from N and 2,000 ft. from E lines of Sec. 10, Blk. 15, T.&P. Sur.
T.D. 1,590 ft.; ran csg.

T. O. Shappell's No. 1 Stevenson, 150 ft. from N and 2,411 ft. from W, Sec. 7, Blk. 16, T.&P. Sur., 7 mi. SW of Hawley.
Drlg. 2,106 ft.

Ungren & Frazier et al's No. 1 Steele, 1,450 ft. from S and 200 ft. from W lines of Sec. 8, Blk. 10, C. Allen Sur.
T.D. 1,207 ft.; drlg. by tools.

LOVING COUNTY

D. C. Evans' No. 1 W. D. Johnson, 2,310 ft. from N and 1,650 ft. from W, Sec. 13, Blk. 57, Twp. 1, T.&P. Sur.
T.D. 2,033 ft.; to deepen.

Mason Oil Co.'s No. 1 Kyle, 1,980 ft. from S and E, Sec. 22, Blk. 55, Twp. 1, T.&P. Sur.
T.D. 495 ft.; recovered tools.

LYNN COUNTY

Hart Oil Co.'s No. 1 Edwards, 220 ft. from N and 200 ft. from W of SE Sec. 29, L.&S.V. Sur.
Elev. 3,112 ft.; S.D. 4,377 ft.

MARTIN COUNTY

Wright & Scott's No. 1 Flannigan, 330 ft. N and E, Sec. 22, Blk. 37, Twp. 1s, T.&P. Sur.
S.D. 100 ft. for csg.

MITCHELL COUNTY

Sawtell & Grueber's No. 1 Morrison
S.D. 1,020 ft.

McCULLOCH COUNTY

Brock & Seward's No. 1 McCall, 2,250 ft. from S and 2,139 ft. from E lines of Sec. 2, John Ware Sur.
T.D. 611 ft.; underreaming.

Honea et al's No. 1 Cox, 450 ft. from S and 150 ft. from E, David Pope Sur.
S.D. 846 ft., black shale.

Miller et al's No. 1 Black, 160 ft. from N and 175 ft. from E, Sur. 290, H.&T.C. Sur., 3 miles E of Placid.
Drlg. 500 ft.

Geo. Poulter's No. 1 Wyres, 1,350 ft. from S, 150 ft. from W lines of J. Heinsohn Sur. No. 633.
Drlg. 150 ft.

Skaggs & Brewer's No. 1 Dunn, 190 ft. from S and 570 ft. from E, Sec. 951, T. L. Eartig Sur.
S.D. 700 ft.

PECOS COUNTY

Cardinal Oil Co.'s No. 1 White & Baker, 2,310 ft. from S and 330 ft. from W, Sec. 51, Blk. Z, T.C. Sur.
S.D. 2,081 ft.

Gulf Prod. Co.'s No. 5 White & Baker, 330 ft. from N and E lines of Sec. 88, Blk. 194, G.C.&S.F. Sur.
Drlg. 1,010 ft.

Messenger's No. 1 Dr. Sibley, 4,930 ft. from S and 990 ft. from W, Sec. 6, Blk. 9, H.&G.N. Sur.
Location.

San Juan Oil Co.'s No. 2 Masterson, 330 ft. from W and 990 ft. from S lines of Sec. 104, Blk. 10, H.&G.N. Sur.
Location.

Trans-Tex. Oil Co.'s No. 1 Caldwell, 330 ft. from E line and 330 ft. from S line of Sec. 27, Blk. 40, Twp. 9, T.&P. Sur.
S.D. 1,742 ft.

REAGAN COUNTY

Byrd-Frost Inc.'s No. 1 Boyd, 1,320 ft. from S and E of Sec. 6, Blk. E, L.V.S.&V. Sur.
T.D. 2,112 ft.; ran csg.

Dobbs' No. 1 Friend, 2,310 ft. from S and 660 ft. from W of Blk. 3, Wm. Allen Sur., 3 or 4 miles S of Big Lake.
Drlg. 2,100 ft.

Emch et al's No. 1 E. P. Belcher, 467 ft. from N and 1,400 ft. from E, Sec. 4, Blk. 4½, G.C.&S.F. Sur.
Spudding.

Skelly Oil Co.'s No. 1-D H. S. Grayson, 1,980 ft. from N line and 660 ft. from W line of Sec. 33, Blk. 8, University Land Sur.
S.D. 9,967 ft.

REEVES COUNTY

J. E. Cunningham's No. 1 Altman, 2,310 ft. from N line and 1,980 ft. from E line of Sec. 1, C. C. Wyatt Sur.
Top Delaware sand (by driller) 3,815 ft.; drlg. 4,000 ft.

Herbert Oil Co.'s No. 1 Williams & Walker, 5,280 ft. from S and 1,320 ft. from E, Sec 17, Blk. 6, H.&G.N. Sur.
Spudded and S.D.

K. Slack et al's No. 1 Reeves, 1,980 ft. from N and W, Sec. 20, Blk. 56, P.S.L. Sur.
Standardizing.

RUNNELS COUNTY

Dennis et al's No. 1 Wash, 550 ft. from N and 550 ft. from E of W half, Sec. 133, E.T.R.R. Sur.
Spudded and S.D.

Melrose Oil Co.'s No. 1 L. P. Woods, 150 ft. from NE lines and 2,475 ft. from W line of survey, Willett Holmes Sur. No. 100.
S.D. 2,507 ft.

R. Wells' No. 1 James, 396 ft. from N and 330 ft. from E of James tract in Sec. 14, D. Diaz Sur.
S.D. 1,100 ft.

SCHLEICHER COUNTY

John M. Cooper et al's No. 1 Bert Page, 1,290 ft. from N line, 1,470 ft. from W line of Sec. 40, Blk. L, G.H.&S.A. Sur.
T.D. 6,045 ft.; to test.

W. C. Proctor et al's No. 1 Judkins & Spencer, 1,920 ft. from S and W of W. W. Russell grant.
S.D. 212 ft. for csg.

SCURRY COUNTY

McLaughlin's No. 1 Allen, 1,331 ft. from N and 1,338 ft. from E, Sec. 298, Blk. 97.
Top salt 772 ft.; drlg. 1,038 ft.

STONEWALL COUNTY

Merry Bros. and Perrini et al's No. 1 Williams, C SW of SW Sec. 6, Blk. C, A.B. &M. Sur.
T.D. 3,080 ft.; underreaming csg.

SUTTON COUNTY

Texs et al's No. 1 Mower, 1,980 ft. from S and W of Sec. 39, Blk. 5, T.W.&N.G. Sur.
Top White lime 4,527 ft.; drlg. 4,590 ft.

TAYLOR COUNTY

Eastland Oil Co.'s No. 1 Tittle, 600 ft. from N and W, Sec. 37, Blk. 19, T.&P. Sur., 1 mile NE of Trent.
Machine

TERRELL COUNTY

W. A. Sudderth's No. 1 Phelps, 2,157 ft. from N line and 2,482 ft. from the W line of Sec. 5, Blk. 4-A, G. W. Turley Sur.
S.D. 5,635 ft.

TOM GREEN COUNTY

Jacobs et al's No. 2 DeLong, 150 ft. from N and 450 ft. from E, James Webb Sur. No. 83.
Location.

UPTON COUNTY

Baldridge Oil Co.'s No. 1 S. Peck, 440 ft. from S and E, Sec. 29, Blk. 41, Twp. 4s, T.&P. Sur.
Elev. 2,890 ft.; drlg. 2,446 ft.

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G. Sur.
Drlg. 12,361 ft.

Humble Oil & Ref. Co.'s No. 1 Pollock, C of NW, Sec. 4, Blk. M.
T.D. 4,395 ft.; to set csg.

King Mountain Pet. Co.'s No. 1 Sherk, 330 ft. from S and W, Sec. 29, Blk. 1, M.K.&T. Sur.
S.D. 2,500 ft.

Williams & Williams Drlg. Co.'s No. 1 Robbins, 1,600 ft. from S and 1,900 ft. from E, Sec. 4, G.C.&S.F. Sur.
Drlg. on iron at 2,040 ft.; 400 ft. oil in hole.

WARD COUNTY

Atlantic O. P. Co.'s No. 2 Miller, 504 ft. from NE and 330 ft. from SE, W. F. Russell No. 3 Sur.
Drlg. 1,200 ft.

Alexander's No. 1 Richter, 1,650 ft. from NW, 1,170 ft. from NE line of Sec. 37, Blk. 34, H.&T.C. Sur.
Drlg. 2,100 ft.

Bradford et al's No. 1 E. R. Allen, 660 ft. from NW line and 551 ft. from NE line, Sec. 11, Blk. 5, H.&T.C. Sur.
T.D. 1,520 ft.; shut down.

Caprito's No. 1 Hardage & Wilson, 2,310 ft. from NE and 990 ft. from SE, Sec. 11, Blk. 34, H.&T.C. Sur.
Material.

Cook Drlg. Co.'s No. 1 Wood, 330 ft. from NW and SW, Sec. 5, W. F. Stewart Sur.
T.D. 2,548 ft.; plugged back to 2,527 ft.; shut down.

Gulf Prod. Co.'s No. 55 O'Brien, 1,650 ft. N and 330 ft. from E, Sec. 18, Blk. F.
T.D. 2,787 ft.; shot and cleaning out.

Gulf Prod. Co.'s No. 56 O'Brien, 2,310 ft. from N and 330 ft. from E, Sec. 18, Blk F.
Drlg. 2,610 ft.

Magnolia Pet. Co.'s No. 2 Sealy Estate, 2,310 ft. from S and 330 ft. from W, Sec. 43, Blk. F.
Cementing pipe 1,240 ft.

Rector Oil Co.'s No. 1 Monroe, 660 ft. from SE and NE, Sec. 2, Blk. 1, W.&N.W. Sur.
Drlg. 2,946 ft.

Sageland Oil Corp.'s No. 2 Pure-Bennett, 1,650 ft. from NW and 2,310 ft. from SW
S.D. 220 ft.

Jerry Sines' No. 1 Brown, 330 ft. from NW and NE, Sec. 13, Blk. 5, H.&T.C. Sur.
T.D. 2,648 ft.; reaming csg.

West Texas O. & R. Co.'s No. 1-C University, 330 ft. from N and E, Sec. 6, Blk. 16.
Drlg. 1,780 ft.

WINKLER COUNTY

Barnsdall Oil Co.'s No. 1 Brown & Aultman, 2,310 ft. from N and W, Sec. 6, Blk. 5, P.S.L. Sur.
Drlg. 3,200 ft.; flowed 125 bbls. in 24 hrs.

Green Prod. Co.'s No. 1 J. F. Cross, 330 ft. from N and 2,310 ft. from W, Sec. 4, Blk. B-10, P.S.L. Sur.
Material.

Harry Adams' No. 2 Scarborough, 990 ft. from N line and 990 ft. from W line, Sec. 2, Blk. 77, P.S.L. Sur.
Location.

Humble Oil & Ref. Co.'s No. 2-A Walton, 660 ft. from S and W, Sec. 48, Blk. 26, Derrick.

Magnolia Pet. Co.'s No. 6 Watton, 330 ft. from S and 1,650 ft. from W, Sec. 1, Blk. 26, P.S.L. Sur.
T.D. 2,960 ft.; standard derrick.

Maxwell & Atlantic's No. 2 Daugherty, 990 ft. from S and 330 ft. from E, Sec. 11, Blk. 26, P.S.L. Sur.
Drlg. 2,615 ft.

Mid-Continent Pet. Corp.'s No. 2 Howe, 1,650 ft. from N and 330 ft. from W, Sec. 12, Blk. 26.
T.D. 2,989 ft.; T.P. 2,800 ft.; flowing 20 bbls. oil per day.
Richardson's No. 1 Walton, 1,010 ft. from S and 330 ft. from W, Sec. 1, Blk. B-3.
Show gas 2,352 ft.; drlg. 2,450 ft.
Sayre Oil Co.'s No. 2 Lum Daugherty, 990 ft. from S and 330 ft. from E lines of Sec. 2, Blk. 26, P.S.L. Sur.
S.D. 2,821 ft.
Sayre Oil Co.'s No. 1 Leck, 330 ft. from S and E. Sec. 2, Blk. 26, P.S.L. Sur.
Rigged up rotary 2,749 ft.
Jerry Simes' No. 1 Hayzlett, 2,310 ft. from NW and 330 ft. from SW, Sec. 17, Blk. 5, H.&T.C. Sur.
Derrick.
Skelly Oil Co.'s No. 2 Halley, 1,320 ft. from N and 2,200 ft. from E, Sec. 25, Blk. B-11, P.S.L. Sur.
S.D. 3,090 ft.
Slosi Oil Co.'s No. 1 Lowett, 330 ft. from N and E, Sec. 36, Blk. 26, P.S.L. Sur.
Drlg. 2,620 ft.
Sun Oil Co.'s No. 1 Halley, 2,200 ft. from N and 440 ft. from E, Sec. 24, Blk. B-12, P.S.L. Sur.
T.D. 2,656 ft.; cleaning out.
Texas Pacific Coal & Oil Co.'s No. 2 Daugherty, 1,650 ft. from S and 330 ft. from E, Sec. 2, Blk. 26, P.S.L. Survey.
Drlg. 2,100 ft.

East Central Texas Wildcats

(Continued from Page 43)

ELLIS COUNTY

Murphee & Coker's No. 1 Coker, 2,900 varas along S line of grant from river and 1,700 varas N at R/A, R. De La Pena Sur.
Drlg. 1,060 ft.

FALLS COUNTY

C. P. Schuh et al's No. 1 P. St. Clair, 330 ft. from W and 280 ft. from S of 218-ac. tract, J. A. Manchaca Sur., E of Chilton.
S.D. 727 ft.

FANNIN COUNTY

Wilson, Moore & Smith's No. 1 Mrs. M. Rogers, 150 from ft. N and 900 ft. from E line of Jas. Saunders Sur., in town of Trenton.
S.D. 582 ft.

FREESTONE COUNTY

Daniel Oil & Royalty Co.'s No. 2 Ball, J. Y. Aquilera Sur., 1,320 ft. N and 1,390 ft. E of No. 1 Ball, or N 9 deg. 35 ft. E, 1,905 ft. from No. 1 Ball.
Elev. 421 ft.; D.S. test 4,817-35 ft.; 320 lbs. pressure; large amount of gas; to C.O. and set csg.
Hoover et al's No. 1 McFall, 150 ft. S and W lines, S. Garrison Sur., E of Mexia.
Location.

GREGG COUNTY

O. T. Clark's No. 1 Williams, 2,100 ft. from S and 2,400 ft. from W of D. Hill Sur., 3 miles NE of Longview.
T.D. 3,620 ft.

HENDERSON COUNTY

Great States' No. 1 Ansley, 1,724 ft. W and 300 ft. S of SE cor. of M. Matthews Sur., N. H. T. Thompson Sur.
S.D. 2,900 ft.
Taubert & McKee's No. 1 M. T. Dobbs, NW cor. of east Dobbs 100-ac. tract, 4 miles E of Malahoff and S of Railroad, George Aldrick Sur.
Swbng. some S.W. 4,048 ft.
H. M. Wilson's No. 1 fee, 970 varas S of NE cor. of 943-ac. tract, 5 miles N of Malahoff.
Derrick.
Winn et al's No. 1 Geo. Forrester, cen. of 114-ac. tract, S. Cherry Sur., S of Murchison.
Rigged up.

HOPKINS COUNTY

D. A. Hale et al's No. 1 L. M. Hall, 200 ft. from N and E lines of 70-ac. tract, 1 mile SE of Miller Gros. A. Caro Sur.
S.D. 2,950 ft.

HUNT COUNTY

Cauble & Thompson's No. 1 Reed, 330 ft. N of northerly NE cor. of C. B. Payne Sur., but in F. Thweatt Sur., 3 miles SE of Greenville.
Coring 3,380 ft.
Shawver et al's No. 1 Phillips, 1,200 ft. E of Winan's No. 1 Phillips, University Lands Sur., 2 miles W of Commerce.
Elev. 522 ft.; S.D. 5,020 ft.

KAUFMAN COUNTY

Germany et al's No. 1 Clark, 951 ft. N and 1,000 ft. W of tract, S. Eden Sur.
T.D. 1,780 ft.; S.D.
Murry & Emerson's No. 1 G. W. Martin, 1,660 ft. from W and 250 ft. from N of 140-ac. tract, from W. L. C. Butler Sur., 3 miles NE of Kemp.
S.D. 27 ft.
L. P. Kean's No. 1 J. B. Hunter, R. Sowell Sur., 300 ft. from SW and 150 ft. from SE of 50-ac. tract, 4 miles S of Terrell.
S.D. 3,296 ft.

LIMESTONE COUNTY

J. Edward Mills' No. 1 Hunt, 200 ft. from N, 850 ft. from W line 34.75-ac. tract, Israel Wood Sur., 3 miles NE of Kosse.
T.D. 2,637 ft.
C. F. Carter's No. 1 Dean, 660 ft. from SE and 330 ft. from SW lines of 75-ac. tract, P. Valella Sur., 3½ miles SW of Mexia.
T.D. 1,758 ft.
Crawford's No. 1 Vol DeLong.
T.D. 2,307 ft.; blowing.
Doughtry et al's No. 1 S. Welch, 150 ft from NW and 900 ft. from NE of 77.64-acre tract in A. Varilia Sur., 4 miles W of Groesbeck.
S.D. 2,929 ft.

McLENNAN COUNTY

Mahan et al's No. 1 Mann, 1,100 ft. W of Simms Oil Co.'s No. 1 Mann, Carlos Tampo Sur., W of Robertsonville.
Drlg. 567 ft.

NACOGDOCHES COUNTY

K. L. McHenry's No. 1 E. J. Campbell, Manvel de los Santos Coy Sur., 1,500 ft. from NW cor. of 181-ac. tract, 7 miles NW Nacogdoches.
Location.
Morrow et al's No. 1 C. B. Watkins, 150 ft. from N line and 330 ft. from NW lines of 160-ac. tract, 3 miles S of Caro, H. Y Bailey Sur.
Fishing 4,170 ft.

NAVARRO COUNTY

Bennett Brothers' No. 1 T. E. Stewart, 150 ft. from NE line of lease, 10 miles SW of Corsicana, Wm. R. Bowen Sur.
T.D. 1,186 ft.; S.D.
R. B. Codding et al's No. 1 Lela Kent, 450 ft. from S line and center of N and S lines of lease, 3 miles NE of Chatfield, C. B. Emmons Sur.
S.D. 1,340 ft.
W. J. Keeling et al's No. 1 J. F. Rushing 484 ft. from N line and 150 ft. from W line of 184-ac. tract, 6 miles SW of Richardson, Henry Ford Sur.
T.D. 2,881 ft.
McCullough et al's No. 1 C. Berry, 330 ft. from SE cor. of 35-acre tract, 1 mile W of Dawson, William Moss Sur.
S.D. 1,182 ft.
Wiggins et al's No. 1 Donoho, 450 ft. from N and 1,101 ft. from E lines in John Couple Sur., SW of Corsicana.
S.D. 1,439 ft.

RED RIVER COUNTY

Dinger's No. 1 W. T. Norris, 1,000 ft. from S and 1,900 ft. from W of 400-ac. tract, Jos. Guest Sur., 1 mile S of Detroit.
Drlg. 1,775 ft.
Joiner's No. 1 D. Rust, C. C. Wilborn Sur., 234 ft. N and 254 ft. W of most southerly SE cor. of Sur., just south of Avery.
Moving in rig.

RUSK COUNTY

Ben Lamb's No. 1 H. Leath, 330 ft. out of NW cor. of 185-ac. tract in L. J. Dooley S.D. 4,725 ft.; (corrected).
Richardson's No. 1 Wood.
Derrick.

SMITH COUNTY

Cloud et al's No. 1 Dendall, 330 ft. from S and W of 55-ac. tract, J. Williams Sur., 3 miles E of Van Field.
S.D. 1,650 ft.
Dr. Garland's No. 1 Bartlett, 330 ft. out of SE cor. of R. G. Steeart Sur., 1 mile SE of Jamestown, ½ mile E of Cloud.
Pecan Gap 2,948-3,070 ft.; drlg. 3,125 ft.
W. R. Harrison's No. 1 Rushing, J. Herring Sur. (O.W.D.D.).
T.D. 4,330 ft.; S.D.; will P.B. and test again.

TITUS COUNTY

S. Rotondi's No. 1 Lillianstun, 1,200 ft. E from NW cor. of J. Bodt Sur. and 330 ft. N, but in W. H. Crawford Sur., 5 miles NE of Talco.
Elev. 301 ft.; derrick.

VAN ZANDT COUNTY

J. H. Foster et al's No. 1 Breucher, 330 ft. out of SE cor. of tract, D. Clapp Sur., 4 miles SE of Wills Point.
Rigged up.
Green and Winn's No. 1 Eaton, 330 ft. out of most westerly SW cor. of J. Wilson Sur., 2 miles SE of Martin.
Elev. 518 ft.; drlg. 2,110 ft.
J. Beren et al's No. 1 Bryant, 483 ft. N of same operator's dry hole, Nacogdoches County School Land Sur.
W.O.S.R. 1,325 ft.
Beren et al's No. 2 Palmer, 544 ft. from S and 656 ft. from E of 69.5-ac. tract, Nacogdoches County School Land.
T.D. 1,324 ft.
Pure and Humble's No. 1 J. H. Ray, Nacogdoches School Land Sur., 150 ft. N and 150 ft. W of NE cor. of J. M. Palmer's 39-ac. tract.
T.D. 1,204 ft.; filled 45 ft. with oil in 2½ hrs.

WOOD COUNTY

Hill & Hill's No. 1 J. J. Phillips, 330 ft. from N and E, James M. Moore Sur., 5 miles S of Winnsboro.
Drlg. 4,440 ft.; top Austin 4,130-4,220 ft.

Southwest Texas Wildcats

(Continued from Page 41)

ft. from N line, 1,540 ft. from W line of tract, P. B. Hayes Sur. No. 3.
Spudded.

CALDWELL COUNTY

Coffield & Lanning's No. 1 Franks, 150 ft. from N and E lines of S½ of 131.6 acres, Edward Brown Sur.
Drlg. 538 ft.
F. Meyers' No. 1 W. T. Mooney, 810 ft. from S line, 450 ft. from W line of 95-ac. tract, S. Seal Sur.
Drlg. 600 ft.

DEWITT COUNTY

Stewart's No. 1 Kleberg, 680 ft. from W line and midway N and S lines of tract, Tumlinson Sur.
Spudded and S.D.
Sunray Oil Co.'s (S. S. Price et al) No. 1 Beuhrig, 330 ft. from N and E lines of Sec. 7, T.&N.O. Sur.
3,419 ft.; no report.

DUVAL COUNTY

Al Buchanan and Bianco Oil Co.'s No. 1 Ruiz, 330 ft. from SE cor. of 282-ac. tract, Sur. 73.
Drlg. plugs 2,716 ft.
Millis Bennett's No. 1-A D.C.R.C., 330 ft. from S and E lines, Blk. 17, Sur. 100.
Rigging up.
Buffalo-Texas Syndicate's No. 1 Escobas, 2,777 ft. from N line, 1,944 ft. from W line of 930-ac. tract in San Francisco grant.
S.D. 4,010 ft.
Intrepid Oil Co.'s No. 1 Parr, 2,590 ft. from S line, 150 ft. from E line, Sec. 26.
Abd. 4,851 ft.
Intrepid Oil Co.'s No. 2 Parr, 330 ft. from N and W lines of 80-ac. tract, Sur. 115.
Rigging up.
Henderson & Harvey's No. 1 Chernosky, 330 ft. from S line, 660 ft. from W line, Sur. 226.
T.D. 2,234 ft.; flowed 10 bbls. pipe line oil in 3 hrs., then went dead.
Magnolia Pet. Co.'s No. 1 Bennett, 330 ft. from S and W lines of Sur. 441.
Digging pits.
J. J. O'Byrne's No. 1 Ball, 330 ft. from S and W lines of Tract 3, Santas Flores grant.
Moving in material.
Pearson et al's (Grimes et al) No. 1 Fitzsimmons, 300 ft. from S line, 150 ft. from E line of Sur. 391.
S.D. 4,438 ft.; tested S.W.
Texia Oil Co.'s (Johnson Bros.) No. 1 Hubbard, 990 ft. out of SW cor. of Sur. 84.
Drlg. 2,010 ft.

EDWARDS COUNTY

Harry Adams' No. 1 Holman, 1,650 ft. N line, 330 ft. from E line, Sec. 22, C.C.S. D.&R.G.N.G. Sur.
S.D. 602 ft.

FAYETTE COUNTY

Clark et al's No. 1 Becker, 750 ft. NW l'ne, 1,300 ft. SW line of 143.74-ac. trac in A. E. Baker League.
Location.
Ross Fenton's No. 1 Kasper (263-ac.), 3,000 ft from NE line, 1,280 ft. from SW line, of Thos. Green Sur. No. 28.
Location.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Davies, 1,320 ft. from NW line, 330 ft. from NE line of B. L. Crouch Sur.
Drlg. 3,800 ft.
W. T. Shoemaker's No. 1 M. Roche, 150 ft. SW cor. of Carl Wenzel Sur. No. 139.
Drlg. 2,950 ft.

GILLESPIE COUNTY

Ed L. Nixon's No. 3 Lindig, 12,694 ft. S line, 1,333 ft. W line, Maria Josepha Guerra Sur. No. 41.
S.D. in lime 692 ft.

GONZALES COUNTY

Southwestern Dev. Co.'s No. 1 W. S. Atkinson, 2,054 ft. from N line, 1,034 ft. from E line of 185-ac. tract in S. Y. Reams Sur.
S.D. 3,980 ft.

GUADALUPE COUNTY

C. W. DeFreest's No. 1 Henry Beck, 502 vrs. from NW line, 150 vrs. from N line, Malpaz Sur.
S.D. 510 ft.
A. D. Locke's No. 1 Lowman, 210 ft. from SE and SW lines of 2,500-ac. tract in C. Campbell Sur.
Drlg. 1,810 ft.
Mineral Oil Corp. of Texas' No. 1 Allen Phillips, 162 ft. from N line, 900 ft. from E line of tract, Cortinos Sur.
Rigging up.
J. S. Suttle's No. 2 Baenziger, S of Seguin. Old well; R.U. to W.O.
Suttle et al's No. 1 Baenziger, 700 ft. from S line, 500 ft. from E line of 125-ac. tract, Monsola Sur.
C.O. 2,153 ft.; to treat with acid.
Seidemann et al's No. 2 Seidemann, 400 ft. from NW line, 360 ft. from NE line of 147.5-ac. tract, Esnaurrizer Sur.
Drlg. 2,719 ft.
L. E. Trout's No. 1 McKee, 650 ft. from W line, 150 ft. from N line of tract, Green DeWitt Sur.
Fishing 3,100 ft.

HIDALGO COUNTY

D. & D. Oil Co.'s (Clay, Spencer & Hood) No. 1 Brooks & Showers, 330 ft. N and E lines of Lot 4, Blk. 12, Por. 79-80.
Drlg. 5,565 ft.
Maxwell-Young's No. 1 King, 175 ft. N and E lines of Lot 8, Blk. 11.
T.D. 875 ft.; standing.
Downey & Morton's No. 1 Daskom, 450 ft. from E line, 55 ft. from S line of Blk. 34, Por. 45.
Drlg. 3,980 ft.
E. H. East's No. 1 Carter, 330 ft. from E line, 900 ft. from N line of Blk. 19, East Retama Subd., Tule grant.
Drlg. 1,600 ft.
Nutex Oil Co.'s (Hankamer & Camp) No. 1 F. Rapp, 330 ft. from E line, 990 ft. from S line of 511-ac. tract, Laguna Seca Lge.
Drlg. 4,100 ft.
E. A. Showers' No. 1 Brocks & Showers, 660 ft. from N and E lines of Lot 11, Blk. 18, Porcion 79.
Drlg. 5,615 ft.
E. L. Smith's No. 1 Salinas, 548 ft. from N line, 1,001 ft. from W line, Share 10, Porcion 41.
Drlg. 500 ft.
Union Sulphur Co.'s No. 3 American Rio Grande Land & Irrig. Co., 400 ft. from S line, 600 ft. from E line of Lot 2,082, Blk. 88, 200 ft. W of No. 2.
T.D. 7,493 ft.; killed to recondition.

JIM HOGG COUNTY

French Oil Co.'s No. 1 Pena, 660 ft. from E line on lines of Blk. 41-42, Share 2, Sur. 574.
Drlg. 1,900 ft.
Miller & Pippin's No. 1 Yeager, 527 ft. S line, 150 ft. E line of Blk. 6, Sur. 20.
Coring 2,989 ft.
A. Edmiston's (Southwestern Dev. Synd.) (formerly John D. Norwood) No. 1 C. W. Hellen, 330 ft. N and W lines, Sur. 48.
S.D. 1,600 ft.
Sun Oil Co.'s No. 1 Well, 1,320 ft. from S and E lines, Sur. 13.
Abd. 4,084 ft.

JIM WELLS COUNTY

P. M. Evans et al's No. 1 Cristler, C of Sec. 41, I.&G.N. Sur.
Abd. 4,405 ft.
Joe Lundin's No. 1 T. C. Hewitt, SE cor. Sec. 51, McKinney & Williams Sur.
Rigged up and S.D.
Maer & Shira's No. 1 Schaeffer, 1,320 ft. E of NW cor. center of Blk. 15, of subdivision of ranch.
Derrick.

KARNES COUNTY

Henderson & Harvey's No. 1 Jauer, 330 ft. from S and W lines of tract, A. Borsheimer Sur.
Drlg. 300 ft.
H. A. Pagenkopf's No. 1 T. J. McAda, 330 ft. from NE and NW lines of Tract C, Martinez Sur.
S.D. 3,511 ft.

KERR COUNTY

Meteor Oil Co.'s (Edminton & Walker) No. 1 Whitworth, 1,140 ft. from S line and 1,333 ft. from E line of Sec. 1,439, of the H.E.&W.T. Sur.
S.D. 950 ft.
Jeff Love and Eastland Oil Co.'s No. 5-E Jeff Love, 1,500 ft. SE of No. 1 and 1,530 ft. from SE cor. and 300 ft. from N line of Sec. 1,591.
Drlg. 4,900 ft.

KLEBERG COUNTY

Parr & Ponder's No. 1 Sam Michalk et al, 5 miles SE Kingsville.
Drlg. 1,020 ft.

LASALLE COUNTY

C. W. Benk's No. 1 Feliz, 1,300 ft. from S line, 300 ft. from E line of Sur. 47.
Drlg. 1,815 ft.
S. H. Killingsworth's No. 1 Yeager, 100 ft. from W line, 300 ft. from N line, Sec. 94, Blk. 5, Lot 10.
Spudded.

LEE COUNTY

Jas. E. Pedersen's No. 1 Turner, 1,860 ft. from N line, 150 ft. from E line of tract, David Hudson Sur.
T.D. 6,560 ft.; P.B. to 6,150 ft.; preparing to perforate csg.
Stowe & Scharlach's No. 1 Otto.
T.D. 1,700 ft.; standing; moving in new boiler to deepen to Edwards lime.

LIVE OAK COUNTY

Arthur, Brunson & Hall's No. 1 W. P. Howard, 150 ft. from W line, 3,400 ft. from N line of 200-ac. tract, in B. Ayers Sur.
Abd. 1,455 ft.
Baugh & McMillan's No. 1 Walton & Campbell, 1,500 ft. NE line and SE line of D. R. Fant Sur.
S.D. 3,214 ft.
Henderson Coquat's No. 1 Central Co., 310 ft. from S and W lines, Sec. 12, Blk. 43, Simon Subd.
Drlg. 1,360 ft.
Henderson Coquat's No. 1 Reagan, E of Nueces River and S of Oakville.
Moving in material.
Henderson Coquat's (Luling O. & G. Co.) No. 1 Rex, C of SW¼ of G.H.&H. Sur., Abst. 197, 3 miles S of Mileska.
Drlg. 1,415 ft.
Neversuch Oil Co.'s No. 1 H. H. Ueckert, 330 ft. from W line, 330 ft. from S line of 320-ac. tract, Blk. 121.
Spudded.
L. D. Ormsby's No. 2 Etta Terrell, 1,400 ft. from NW line, 200 ft. from NE line of tract, E. Jurdin Sur.
Drlg. 1,520 ft.
Rowan & Hope's No. 1 L. R. George, 990 ft. from NW and SW lines of farm tract in John Ely Sur. No. A-171.
Abd. 4,205 ft.
Smith & Story's No. 1 G. T. Frederick, 1,650 ft. from railroad, 330 ft. from southern N line of 420-ac., Curry Sur.
T.D. 5,209 ft.; I.P. 350 bbls. per day; 700 lbs. tubing pressure; 1,250 lbs. csg. pressure; ¼-in. choke.
J. O. Whittington's No. 1 Little, 1,320 ft. NE of S cor. of M. M. Shipp Sur., 330 ft. N of S line.
T.D. 5,758 ft.; set csg. in sand at 4,980 ft.

MAVERICK COUNTY

Escher & Andrews' No. 1 Mathews, NW cor. of B. C. Flowers Sur.
Standing 615 ft.

McMULLEN COUNTY

Camp Drlg. Co.'s No. 1 Lark, 150 ft. from N and W lines of 407-acre tract, Scrugham Sur.
Derrick.
Chas. A. Hall's No. 1 B. C. Claunch, 363 ft. from N line, 160 ft. from E line of 25-ac. tract, Michael Haley Sur.
Location.
Howeth & Swiger's No. 1 Rhodes, near C 990 ft. from N and W lines of Sec. 22, M. F. Lowe Sur.
Coring for Cole sand 1,800 ft.
Points et al's No. 1 Fahler, 2,000 ft. from S line, 2,500 ft. from W line of 1,000-ac. tract, Pittuck Sur.
Drlg. 703 ft.

MEDINA COUNTY

John Lind's No. 1 Jungman, 2,050 ft. from N line, 550 ft. from W line, J. Degat Sur.
Fishing 1,500 ft.
Scoggins & Sanders' No. 1 L. W. Burrell, 150 ft. from E line, 1,750 ft. from N line of M. E. Gage Sur. 395.
S.D. 1,880 ft.
W. T. Shoemaker's No. 1 Noonan, 50 ft. from No. 1 Noonan, of Thos. S. McClure Sur. 52.
Moving in spudder.

MILAM COUNTY

H. V. Pedersen's No. 1 Sandow (formerly C. F. Drake et al's No. 1 Standard Coal Co.) 970 ft. SW line, 1,700 ft. SE line of G. L. Johnson Sur.
C.O. 1,575 ft.
Second Natl. Bank's No. 2 Ward, 700 ft. from SE line, 2,598 ft. from SW line, L. Taylor Sur.
Drlg. 820 ft.

NUECES COUNTY

Magnolia Pet. Co.'s No. 1 S. Page, 190.8 ft. from W line, 196 ft. from N line of 75-ac. tract in Kinney Sur. No. 586, Sec. 8.
T.D. 5,259 ft.; P.B. 4,864 ft.; completed gas well.

REAL COUNTY

H. J. Heartwell et al's No. 2 L. J Maby, 694 ft. from W line and 2,153 ft. from S line of A.B.&M. Sur. No. 175.
Drlg. 2,900 ft.

SAN PATRICIO COUNTY

Allied Minerals' No. 1-A Ramsey, 466 ft. E, 200 ft. N of SW cor. of the North B. Giddings Sur. on a 1,000-ac. tract.
Sandy shale 2,642 ft.; moving in heavier rig; S.D.

Masterson et al's (Tom Graham) No. 1 Wurzbach, 330 ft. from W line, 4,350 ft. from S line of C. C. Hornsby Sur.
Drlg. shale 4,538 ft.

Plymouth Oil Co.'s No. 1-C Welder, 10 mi. NE Sinton.
Preparing to set csg. in sand showing oil at 550 ft.

Stanolind O. & G. Co.'s No. 1 J. J. McMillan (Whitehurst), 165 ft. from W line, 990 ft. from N line of Lot 12, Fulton Pasture Subd., Fitzsimmons League.
Abd. 6,009 ft.

STARR COUNTY

Armstrong, Emanuel & Adams' No. 1 S.C C.C., 330 ft. from S and E lines of Blk 57, Porcion 88-89.
Showing some wtr. in the sand at 2,718 ft.

C. R. Borah's No. 1 A. Guerra, San Jose grant, 330 ft. from N and 150 ft. from E lines of Sec. 6 (NE part of county).
Drlg. 2,830 ft.

John H. Clopton's No. 1 Roos, 12,155 ft. N of Highway 4, along E line of Por. 92, 3,300 ft. N, 80 deg 45 min. W.
Drlg. 4,720 ft.

John H. Clopton's No. 1 Dioncia Lopez de Tijerina, Blk. 4, Tract C-14, Porcion 80.
Drlg. 1,820 ft.

Crawford et al's No. 1 Hicks et al, 150 ft. SE and NE line of NW, Perdernal grant.
S.D. 1,615 ft.

Dainwood Oil Co.'s No. 1 Guerra, 5,280 ft. W line and N line of Share 26, Porcion 70-71-72.
Abd. location.

Geo. Lacy's No. 1 Abney, 330 ft. from W line, Porcion 99; ½ mile W of Vernon's No. 1.
Drlg. 2,915 ft.

Conroe Drlg. Co.'s No. 1 Guerra, 330 ft. from NE and SE lines of Blk. 35, J. N. Crawford Subd., Por. 56, Jurisdiction of Mier.
Abd. 2,370 ft.

Hiram Reed's No. 1 Black Bros., Tract A-28, Porcion 80.
Drlg. 200 ft.

Dale Sneed's No. 1 Y. and V. Guerra, 330 ft. W line of Por. 68, 330 ft. S line of 1,000-ac. block of N end of Por. 92, in Por. 68.
Standing 330 ft.

Sunray Oil Co.'s No. 1 Lopez, 2,600 ft. from N line, 880 ft. from E line, Porcion 75.
Set surface csg.

TRAVIS COUNTY

Anderson's No. 1 A. D. Beham.
T.D. 510 ft.; no report.

D. Prewitt's No. 1 Ed Peterson, 150 ft. from SE and SW lines of tract, L. Kimbro Sur.
Rigging up; S.D.

C. A. Stubbs' No. 1 Julius Kerlin, 530 ft. SW line, 450 ft. NW line of 123-ac. tract in I. Lindsay Sur. No. 61.
S.D. 1,135 ft.

WEBB COUNTY

Frank E. McMillan's No. 1 Bruni, 330 ft. from S and E lines of SW¼ of SE¼ of Sur. 77.
T.D. 3,518 ft.; lost hole; drlg. in new hole at 2,780 ft.

Payne et al's No. 1 Hoggterp, 450 ft. from SE line, 300 ft. from NE line, Blk. 5, Sur. 1,110, N of Oilton.
Coring 1,521 ft.

Arthur H. Wray's No. 1 Geo. Stuempke, Share 1, Brewster pasture, Galan grant.
700 ft.; no report.

WILLACY COUNTY

Daniel et al's (South Texas Dev. Co.) No. 1 Armendiaz, 1,500 ft. W of Arroya Colorado River, 1,200 ft. N of S line of Tract 4.
Abd. 5,165 ft.

W. T. Daniel's No. 2 Armendiaz, Share 14, near Rio Hondo.
Spudded.

WILLIAMSON COUNTY

Gault & Mimms' No. 1 H. V. Seggren, 1,000 ft. from W line, 300 ft. from S line of 450-ac. tract, Bevil Sur. No. 56.
Drlg. 913 ft.

Goff et al's No. 1 Timmerman, Cartwright Sur.
S.D. 1,146 ft.

Hays et al's No. 1 Pfluger, 150 ft. from E line, 150 ft. from S line, White Sur.
Drlg. 915 ft.

Johnson & Ray's No. 1-B M. Oxford Smith, 900 ft. S of No. 1-A in S. Williams Sur
S.D. 20 ft.

J. Morgan Russell's No. 1 Nelson, 1,150 ft. S line, 1,115 ft. E line of John L. Justice Sur. No. 2.
S.D. 894 ft.

WILSON COUNTY

Universal Oil Co.'s No. 1 Burney, edge of Floresville townsite.
Set surface csg. 200 ft.; W.O.C.
NW line, Blk. 4, Por. 29.

ZAPATA COUNTY

F. H. Crow et al's No. 1 Daniel Ysaguirre, 330 ft. out of SW cor. Share 1, Porcion 14-15-16, D. Ysaguirre tract.
Location for 3,500-ft. test.

Danvers & Harrison's No. 1 D. A. McAskill, near N line of county.
Set and cmtd. csg. 30 ft.

H. & M. Oil Co.'s (Virginia Hardee) No. 1 Slator, 514 ft. from SW line, 150 ft. from SE line of Blk. 65, Borrego grant.
Standing 22 ft.

Joe Palmer's No. 1 J. M. G. Martinez, 150 ft. SE and SW line, Blk. 27, Sur. 434.
Abd. 1,500 ft.

Texas Royalty Investment Co.'s No. 1 N. J. Vela, 686 ft. from NE line, 300 ft. from NW line, Blk. 7, Por. 39.
Coring 2,265 ft.; no report.

Vollering & Arnold's No. 2 Bruni, 2,615 ft. from NE line, 5,500 ft. from NW line of Barrocito pasture, Borrego grant.
Drlg. 200 ft.

Southwest Texas Proven

Week Ending April 13

CAESER—BEE COUNTY

Caesar Oil Co.'s No. 3 R. E. Miller, 1,900 ft. from W line, 330 ft. from S line of F. Lewis Sur.
T.D. 3,034 ft.; completing.

Firm Oil Co.'s No. 2 Grissom, 1,750 ft. from W line, 150 ft. from N line, McEarly Sur.
Derrick.

Tothen Oil Co.'s No. 1 Hudman, 150 ft. from N and E lines of lease in Chas. Baker Sur.
Coring for sand 3,097 ft.

Swiger et al's No. 3 Gardner.
Coring for sand.

DIRKS—BEE COUNTY

Dirks Bros.' (Conservative Oil Co.) No. 1 Harris, 330 ft. S of N line, 330 ft. W of E line of 30-ac. tract, J. L. Dugat Sur.
Derrick.

TULETA—BEE COUNTY

Edwin M. Jones' No. 7 D. E. Robinson, 660 ft. W of No. 6, 330 ft. from N line of SW¼ of Sec. 5, J. M. Uranga grant.
Drlg. 3,500 ft.

Edwin M. Jones' No. 16 Robinson, one location N of No. 13, Sec. 5.
Coring for sand.

Heyser Heard & Walton's No. 2 Perez, C of Blk. 12 of SW¼ of Sec. 8.
Drlg. 1,000 ft.

Mills Bennett Prod. Co.'s No. 1 Basinger, 330 ft. from N and W lines of NE ¼ of NW¼ of Sec. 7, J. M. Uranga grant.
Rigging up.

Mills Bennett's No. 3 Tuleta Merc. Co., 330 ft. from N line, 990 ft. from W line of SW¼ of Sec. 10.
T.D. 2,907 ft.; I.P. 240 bbls. per day; ¼-in. choke.

Southwest Exploration Co.'s No. 1 Heyden & Bruckham, C of farm tract, 330 ft. from N and W lines of Sec. 20, Uranga grant.
Rigging up.

Rual B. Swiger's No. 2 C. A. Gardner, 150 ft. from S and W lines of 105-ac. tract, F. Lewis Sur.
T.D. 3,036 ft.; I.P. 17 bbls. per hr.; ⅝-in. choke.

Tuleta Oil Co.'s No. 7 Skinner & Harris, W½ of NW¼ of Sec. 10.
T.D. 3,952 ft.; completed but not gauged.

Tuleta Oil Co.'s No. 8 Skinner & Harris.
Drlg. 2,210 ft.

Wrightsman Oil Co.'s No. 1 Kimball, 1,300 ft. from NW line, 1,500 ft. from NE line, S. Winship Sur.
Drlg. 1,400 ft.

VON ORMY—BEXAR COUNTY

Jack Crouch's No. 5 Hoch, 330 ft. S of No. 4, Baerera Sur. No. 58.
S.D. 250 ft.

Richcul Oil Co.'s No. 1 Kohler, 1,000 ft. from N line, 155 ft. from E line of J. Vogt 96.5-ac. tract in J. M. Baerera Sur. No. 58.
S.D. 1,370 ft.

Richcul Oil Co.'s No. 1 Weilbacker, 155 ft. from E line, about 2,250 ft. S of highway in Jett Sur.
S.D. 665 ft.

Trawalter & Umburn's No. 2 Wentz, 150 ft. from S line, 700 ft. from E line of tract in John Simpson Sur.
S.D. 425 ft.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Gov. Wells Oil Co.'s No. 15 State, 330 ft. from N and E lines of SW¼ of SE¼ of Sur. 48.
Testing 2,314 ft.

Magnolia Pet. Co.'s No. 1 C. W. Hahl, 330 ft. from N and E lines of Sur. 67.
T.D. 2,945 ft.; P.B. 2,816 ft.; swbng.

Magnolia Pet. Co.'s No. 2 Hahl-Rogers, 660 ft. S of No. 1, 330 ft. from W line of J. Poitevent Sur. No. 61.
T.D. 2,302 ft.; I.P. 200 bbls. per day on pump.

Magnolia Pet. Co.'s No. 3 Hahl-Rogers, 660 ft. S of No. 2, 330 ft. from W line of 80-ac. tract, Sec. 61, J. Poitevent Sur.
Spudded.

Magnolia Pet. Co.'s No. 5 Ruiz, 660 ft. E of No. 4, 330 ft. from N line of C.&M.R.R. Sur.
W.O.C. 2,467 ft.

Magnolia Pet. Co.'s No. 13 J. O. Wilson, 330 ft. from E line, 1,650 ft. from S line of Sur. 136.
T.D. 2,294 ft.; I.P. 10,000,000 ft. of gas per day; 520 lbs. rock pressure.

Magnolia Pet. Co.'s No. 14 J. O. Wilson, 660 ft. S of No. 9, 330 ft. from W line of Sec. 134, G.B.&C.N.G. Sur.
Drlg. 325 ft.

Parr Oil Co.'s No. 2 Heller, 330 ft. from NE line of E½ of SW¼ of Sur. 44.
Skidding derrick.

Reynosa Oil Co.'s No. 3 Lundell, 330 ft. from S and E lines of NE¼ NE¼ of Sur. 60.
Spudded; (correction).

Salt Dome Oil Co.'s No. 5-B Moody, 330 ft. from N and E lines of NE¼ NW¼ of Sur. 60.
Abd. 2,520 ft.

Southwest Drlg. Co.'s No. 2 Luptack, 330 ft. from N and E lines of N 50 acres of E 100-ac. tract in SE¼ of Sur. 41.
T.D. 2,271 ft.; I.P. 7,000,000 ft. of gas; 500 lbs. rock pressure.

Sun Oil Co.'s No. 7 Cuellar Motor Co., 701 ft. E of No. 3, 330 ft. from S line of Sec. 576, B.S.&F. Sur.
Spudded.

Sun Oil Co.'s No. 8 Cuellar Motor Co., 701 ft. E of No. 7, 330 ft. from S line of Sec. 576, B.S.&F. Sur.
Spudded.

LOMA NOVA—DUVAL COUNTY

Claud Hamill's No. 1 Ruiz, 330 ft. from S and E lines of N 326 acres, Sur. 41.
Coring shale 2,652 ft.

Humble O. & R. Co.'s No. 2 Ruiz, 330 ft. from W line, 2,735 ft. from S line of tract.
In sand showing oil, 2,791 ft.

NORTH KOHLER—DUVAL COUNTY

G. G. Mortiner's No. 2-B Peters, 2,310 ft. from W line, 330 ft. from N line of SW¼ of Sur. 196.
1,100 ft.; no report.

DARST CREEK—GUADALUPE COUNTY

Grayburg Oil Co.'s No. 14 McKean, 700 ft. from No. 13, Cottle Sur.
Testing with acid, 1,819 ft.

LUCAS—LIVE OAK COUNTY

Houston Oil Co.'s No. 32 Cartwright, 1,124 ft. N of No. 31.
Rigging up.

SAM FORDYCE—HIDALGO COUNTY

Alamo Drlg. Co.'s No. 2 Guerra, 233 ft. from N line, 330 ft. from E line of NW 12.5 acres of S 75 acres, of Tract 254, Por. 40.
Abd. 2,125 ft.

Cortez Oil Co.'s No. 1-B Smith, 133 ft. from N line, 164 ft. from W line of S 99 acres of Tract B-3, Porcion 41.
T.D. 2,110 ft.; P.B. 2,000 ft. after twisting off D.S.; S.T.

Double D Oil Co. and Harrison's No. 1 Luis George, 150 ft. from S and W lines of SW 20 acres of Tract 13, Porcion 41.
Drlg. plugs 2,756 ft.

Gem Oil Co.'s No. 1-B (2) Seabury, 330 ft. from S line, 230 ft. from W line, Tract 256, Porcion 38.
Coring 2,775 ft.

Luckey, Blocker & Bishop's No. 3 Francisco Guerra, 165 ft. from S line, 630 ft. from W line of SE 20 acres of Tract 254, Porcion 39.
T.D. 2,763 ft.; I.P. 10 bbls. per hr.

Newman et al's (Moran Corp.) No. 1 Guerra, 130 ft. from S and 330 ft. from W line of 7.5-ac. tract, in Tract 254, Por. 40.
W.O.C. 2,788 ft.

Ernest Powell's No. 1 George Moore, S end of 40-ac. tract, Porcion 42.
Abd. 3,325 ft.

Jack Porter's No. 1 Jackson, 150 ft. from N and E lines of N 10 acres, Tract 278, Porcion 40.
Completing 2,793 ft.

Reed et al's No. 1 Smith, 164 ft. from W line, 133 ft. from N line of S 10 acres of NW 46.29 acres of Share B-3, Por. 41.
T.D. 2,798 ft.; I.P. 75 bbls. per day.

Reed et al's No. 2 Smith, 133 ft. from N line, 165 ft. from E line of S 10 acres of B-3, Porcion 41.
Rigging up.

Skelly Oil Co.'s No. 2 Seabury, 230 ft. from S and W lines of 24-ac. tract, Tract 256, Porcion 38.
Set surface csg.

Smith & Dayvault's No. 1 Seabury, 100 ft. from N line, 150 ft. from E line of 22.90-ac., Tract 256, Por. 38.
Preparing to set csg. 2,828 ft.

Waite's (Scheafer & Mundy) No. 1 Tobasco, Ind. Dist., 25 ft. from N line, 210 ft. from E line of Tract 260, Por. 38.
W.O.C. 2,770 ft.

SANDIA—JIM WELLS COUNTY

O. W. Killam's No. 4 Wade, ¼ mile N of No. 3 Wade.
T.D. 4,703 ft.; P.B. 3,500 ft.; perforated csg. 2,910-29 ft.; flowed sulphur wtr.; abd.

Magnolia Pet. Co.'s No. 6 Seeligson, 660 ft. W, 330 ft. S of No. 3, Canales Sur. No. 20.
Swbng. 3,746 ft.

O. W. Killam's No. 5 W. D. Wade ranch, 1,285 ft. from S line, 1,640 ft. from E line, 1,250 ft. SE of No. 4, in 1,000-ac. tract, Blk. D, Lopez de Jean grant.
Moving in rig.

BURNEL—KARNES COUNTY

American Liberty Oil Co.'s No. 2 Belknap, 3,000 ft. from NW line, 840 ft. from NE line, Chas. Haynes Sur.
Abd. 3,460 ft.

Luling O. & G. Co.'s No. 1 W. C. Boyce, 150 ft. from NW cor. of tract, J. Johnson Sur.
Derrick.

KINGSVILLE—KLEBERG COUNTY

Ray Clark's No. 1 House, Lot 5, Blk. 37, K.T.&I. Co. Sur.
Drlg. below 1,000 ft.; had two gas shows at 690 ft. and 900 ft.

Fidelity Exploration Synd.'s No. 1 Vivian Kivlin, Sec. 4, Blk. 39, K.T.&I. Sur. on Vivian Kivlin lease.
Derrick up.

JACOB POOL—McMULLEN COUNTY

Longhorn, tr.'s No. 4 Lark, 350 ft. from N line, 300 ft. from W line, Blk. 4 of the Scrugham Sur.
T.D. 1,035 ft.; standing.

Loma Oil Co.'s No. 35-A Jacob, midway Nos. 30 and 31, Sur. 8.
T.D. 1,097 ft.; I.P. 150 bbls. per day.

Motes & Beddingfield's No. 4 Jacobs (Lark), 418 ft. from S and W lines of lease, Scrugham Sur.
W.O.C. 983 ft.

Motes & Beddingfield's No. 6 Lark, 304 ft. S of No. 3, Scrugham Sur.
Spudded and S.D.

Jonas, Alex & Maise Weil, 330 ft. from N line, 500 ft. from E line of Share No. 1, McBride partition.
Location.

SINTON—SAN PATRICIO COUNTY

Humble O. & R. Co.'s No. 1-B Welder, 2,400 ft. from N and E lines of 300-ac. lease.
Drlg. 6,700 ft.

ANGELITA—SAN PATRICIO COUNTY

Plymouth Oil Co.'s No. 3-A Welder, 2,500 ft. SW of No. 2-A, J. F. Portillo Sur.
Coring 5,375 ft.

LOS OLMOS—STARR COUNTY

H. L. Curry's No. 1 Bass, 335 ft. E line, 2,522 ft. N line of Sur. 8, Por. 75-76-77.
Standing 1,598 ft.

Ed Linberg's No. 6 Bass, 1,350 ft. from W line, 150 ft. from N line of S½ of NW¼ of Share 6, Porcion 75.
S.D. 50 ft.

J. P. Kennedy's No. 1 Kelsey-Bass, 200 ft. SE of No. 7 Kelsey-Base in Blk. 7 of Porcions 75, 76 and 77.
Abd. 720 ft.

BARBACOAS—STARR COUNTY

Merren Bond et al's No. 4 S.C.C.C., 330 ft. from N and E lines of S 20 acres of Blk. 24, of the Jeffries Lambeth Subd., Por. 89.
T.D. 4,212 ft.; P.B. 2,841 ft.; I.P. 20 bbls. per hr.; shut in.

PLACETAS—STARR COUNTY

Hughston Oil Co., Inc.'s No. 1 Ben D. Wood, 701.6 ft. from S line, 162 ft. from W line of 1,000-ac. tract, Porcion 84.
Derrick.

RIO GRANDE CITY—STARR COUNTY

Goodwin et al's No. 1 Pena, 150 ft. from SE and SW lines of Share 80, Por. 81.
Abd. 1,620 ft.

R. M. Mitchell's No. 1 Salinas, 188 ft. from N line, 800 ft. from W line, Blk. 2, Share 39, Por. 80.
Standing 1,080 ft.

Sioux Oil Co.'s No. 6 Goodrich, 150 ft. from S and W lines, Blk. 13, Tract 5, Por. 81.
Rigging up.

Sioux Oil Co.'s No. 7 Goodrich, Blk. 13, Tract 5, Porcion 81.
Setting csg. at 1,356-64 ft.

SAXET—NUECES COUNTY

J. K. Cutton's No. 3 Sagarin, 330 ft. from S and E lines of tract, Form Lot No. 5, C.E.P.I.&M. Sur.
Drlg. 3,219 ft.

Texon Oil & Royalty Co.'s No. 1 Buckholts, 600 ft. from S line, 695 ft. from E line of J. Ward Sur.
Drlg. 995 ft.

KIMBRO—TRAVIS COUNTY

J. M. Hickey's No. 1 Altick Lind, 150 ft. from S line, 820 ft. from E line of 41.06-ac. tract in McHenry Windburn Sur.
Location.

BRUNI—WEBB COUNTY

Associated Oil Co.'s No. 3 A. M. Bruni, 660 ft. N of No. 2, 330 ft. from W line, 5,000-ac. tract, Blk. 7, M. Arispe grant.
Spudded.

American Liberty Oil Co.'s No. 16-A Bruni, 330 ft. from SW line, 1,302 ft. from SE line, Sur. 6, Arispe grant.
W.O.C. 200 ft.

WEST COLE POOL—WEBB COUNTY

American Liberty Oil Co.'s No. 15-A Bruni, 418 ft. from NE line, 260 ft. from SE line, Blk. 40, Sur. 5.
T.D. 3,414 ft.; I.P. 720 bbls. per day.

Ross Barnhart's No. 1 de la Garza, 1,500 ft. from N line, 200 ft. from E line of Sur. 262.
Testing 2,406 ft.

CarolinaTexas O. & G. Trust, Inc.'s No. 11 S. Benavides, 150 ft. from S line, 600 ft from W line, Blk. 12, Sur. 683.
Drlg. 4,405 ft.

Cole Pet. Co.'s No. 92 Benavides, 330 ft. from N and E of E cor. of Callaghan Tract on Sur. 6.
Testing 3,384 ft.

Highland Oil Co.'s No. 3 Bruni, 330 ft. from NW line, 815 ft. from NE line, Sur. 7.
T.D. 3,404 ft.; I.P. 25 bbls. per hr.

O. W. Killam's No. 32 Bruni, 260 ft. from SE line, 418 ft. from NE line of Blk. 28, Sur. 8.
T.D. 3,449 ft.; P.B. to 2,900 ft.; coring deeper from 2,993 ft. after perforating at that depth.

O. W. Killam's No. 34 Bruni, 236 ft. from SW line, 330 ft. from SE line, Sur. 6.
T.D. 3,411 ft.; I.P. 200 bbls. per day.

Magnolia Pet. Co.'s No. 10 Brennan Benavides, 53 ft. from NE line, 330 ft. from SE line, Blk. 488.
T.D. 2,798 ft.; I.P. 100 bbls. per day.

Magnolia Pet. Co.'s No. 3 Mag. Benavides, 200 ft. from N and E lines of Sur. 697.
Rigging up.

Magnolia Pet. Co.'s No. 8-S Benavides, 330 ft. from SW and NW lines of Blk. 7, O'Hern-Seacord Subd.
Drlg. 200 ft.

Magnolia Pet. Co.'s No. 3 Volke Benavides, 200 ft. from S and E lines of SW¼ of SE¼ of Sur. 660.
T.D. 2,335 ft.; I.P. 50 bbls. per day on pump.

Magnolia Pet. Co.'s No. 1 Valdez, 150 ft. from S and W lines of Sur. 754.
Drlg. 3,430 ft.

J. E. Thomas' No. 7 Gates, 910 ft. from N line, 225 ft. from E line, Sur. No. 62.
Spudded and S.D.

Tide Water Oil Co.'s No. 3 Bruni, 990 ft. from SW line, 330 ft. from NW line of 500-ac. tract, Sur. 7.
Drlg. 200 ft.

BYERSVILLE—WILLIAMSON COUNTY

Coffield & Lanning's No. 3 Heap, 200 ft. from N line, 225 ft. from W line of tract in White Sur.
Location.

R. R. Ogden's No. 1 Matteck, 150 ft. N and W lines of 108.5-ac. tract in White Sur.
Location.

Taylor Ref. Co.'s No. 2-B Sladek, 1,500 ft. N of creek, 300 ft. from W of No. 1-B, White Sur.
696 ft.; no report.

ESCOBAS—ZAPATA COUNTY

Kleiner & Hill's No. 10 Jose Gutierrez, 400 ft. W of No. 9, 150 ft. from S line of 200-ac. tract, Share 4 of Fansler partition of Las Comitas grant.
W.O.C. 1,223 ft.

JENNINGS—ZAPATA COUNTY

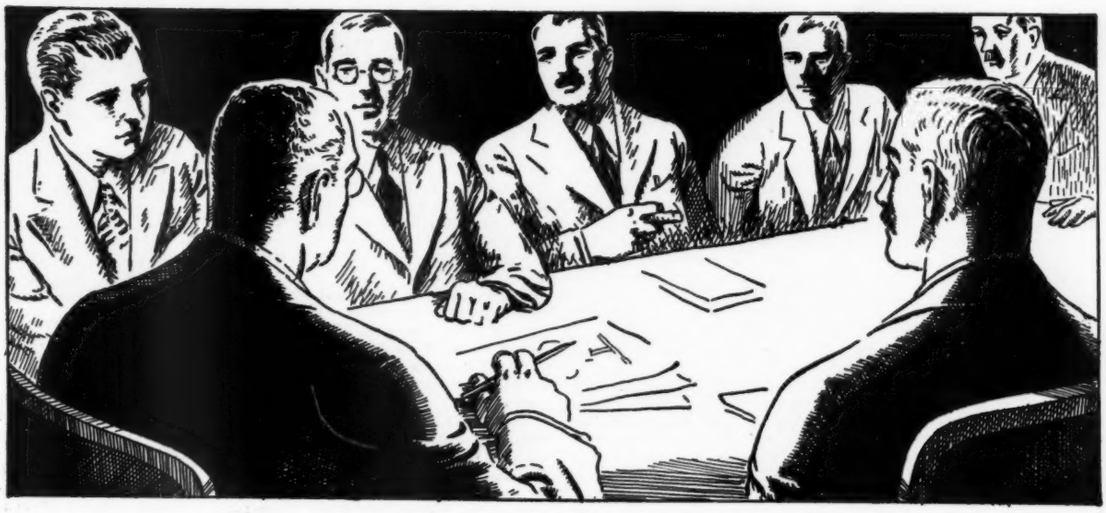
Texas Co.'s No. 66 J. D. Jennings, 960 ft. NW of No. 64, 241 ft. W of No. 65, Cerrito Blanco grant.
Drlg. 650 ft.

Texas Co.'s No. 65 Whitehead, 19,907 ft. from SW line, 5,537 ft. from SE line, Cerrito Blanco grant.
Abd. 1,228 ft.

LOPENO—ZAPATA COUNTY

Alva J. Niles' No. 5-C Trevino, 150 ft. from E line, 156 ft. from N line, Blk. 15, Sur. 412.
T.D. 1,215 ft.; I.P. 15 bbls. per day on pump.

"Gentlemen—now you know the specifications —WHICH VALVE SHALL WE BUY?"



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DARLING
GATE VALVES

Application of Fibrous Materials Adds to Drilling Mud's Qualities

By C. P. PARSONS[1] and H. L. McQUISTON[2*]

Among the drilling problems in the Fitts Pool located near Ada, Okla., there is a double-barreled condition wherein supercharged shallow sands force salt water into the drilling mud on the least provocation while other formations do exactly the opposite by taking drilling mud and cement slurry out of the hole on the least provocation. Some wells are troubled by either one condition or the other, while other wells encounter both. There are four main effects of these troublesome formations, as follows:

1. Loss of circulation while drilling.
2. Inflow of salt water into the mud from supercharged shallow sands.
3. Loss of cement slurry into highly permeable formations while cementing casing.
4. Escape of gas from the shallow supercharged sands upward behind the casing.

It has been fortunate, however, that although the condition has been serious in some wells, making it difficult to reach the depth where the production string of casing is to be set, none have interfered with getting the proper protection to the producing formation by means of the regular water shut-off behind the lower part of the production string of casing.

While there undoubtedly were a number of methods tried by various operators to overcome the difficulties, it is the purpose of this paper to describe the results of a joint effort between the Phillips Petroleum Co. and Halliburton Oil Well Cementing Co. to carry out, both in the laboratory and in the field, the use of sealing materials, carefully selected as to ingredients and size, for overcoming the loss of circulation while drilling and loss of cement slurry while cementing.

Use of Sealing Materials

While the use of sealing materials at Fitts has been successful in obtaining a seal on the face of the supercharged water formations against the entrance of fluid into the formations from the well, yet it was apparent that these formations were not sufficiently permeable to receive the fiber to the extent that a seal could be built up within the formation to prevent the inflow of salt water into the hole when the hydraulic pressure of the drilling fluid in the hole was unbalanced for some reason or other. For this reason, it appears that the supercharged salt water formations are not the same as the more permeable formations that cause lost circulation.

The loss of drilling mud in a thirsty formation is sufficient reason in itself for unbalancing the fluid pressure in the hole and allowing a salt water flow to start. Caving formations and settling out of the solids in the mud are some of the after effects of the salt water flow. The settling out of the solids in the mud by reason of the salt water flow lightening the upper part of the mud column in a number of instances has caused blowouts.

As to the loss of cement slurry in the highly permeable formations, it is apparent that these are the same formations that take drilling fluid during the drilling operation and, even though a regular mud seal may have been established by the mud particles against loss of drilling fluid under normal drilling fluid pressures, yet when it was attempted to place a large amount of cement above such a formation, the additional pressure imposed upon the formation to elevate the cement slurry after a certain amount of it had already passed the formation, was sufficient to break the mud seal and forced the rest of the cement slurry out into the formation instead of upward behind the casing.

As to the escape of gas from the shallow supercharged sands upward behind the casing, this condition was encountered in a number of wells and was apparently due to not being able to land sufficient cement behind the casing to cover up the supercharged formations.

It is believed that the best manner of overcoming the loss of circulation while drilling and thereby removing one of the main causes of salt water inflows and also overcoming the loss of cement slurry into highly permeable formations, which would also overcome the escape of gas from the shallow supercharged sands upward behind the casing, is to obtain an effective seal of these highly permeable, or so-called "thirsty" formations, as quickly as possible during the drilling operation.

Experimental Work

A great deal of experimental work had been done with various materials prior to any actual use in the Fitts Pool.

This experimental work included: (1) Selection of various materials, as to kind, shape and size, that would be suitable for sealing; (2) samples of permeable formations ranging from fine sand up to very coarse gravel; (3) mixtures of sealing materials and various drilling fluids; (4) mixtures of sealing materials and cement; (5) mixtures of sealing materials and oil; also, a number of other miscellaneous mixtures.

In mixing the sealing materials with drilling fluids, special attention was given to determining their effects upon the physical properties of the drilling fluids, such as viscosities, gelatin, weight, suspension, etc.; also their effects upon the pH value of the mud.

In mixing the sealing materials with cement, special attention was given to determining their effects on the physical properties of cement slurry, such as setting time, consistency, compressive strength, permeability, pH value, etc.

In addition to covering the effects of these sealing materials on the physical properties within the mixture, the experiments also included sealing tests wherein the different mixtures were applied under pressures from a high pressure pump into the face of a sample of permeable media. After each sealing test, the permeable media was examined for depth of penetration of the sealing material and the depth of the film built up on the surface of the media.

The materials used at Fitts were based on this experimental work and produced results on its very first use in that field that were very interesting and very successful, as follows:

The well had been drilled to 600 feet and losing a pit of mud every two hours. The mud went out into some formation, or formations, and some of it was oozing out of a creek bottom located several hundred feet from the well. One ton of the sealing material was mixed with the 9 pounds per gallon mud in the circulating pit. This mixture was circulated in the hole with the result that the sealing medium was carried by the mud into the surface pores of the permeable formations and soon built up a seal. The mud quit oozing out at the creek bottom and there was a loss of only 6 inches of mud in the circulating pit during the time a complete seal was being obtained. The hole was drilled to 675 feet, the point selected for setting 13⅜-inch casing, without further difficulty.

The second question about sealing then remained to be answered. That question was whether the seal already obtained would be sufficiently effective to allow the casing to be cemented from top to bottom, without losing any cement slurry?

The casing was run and cemented with regular cement slurry from top to bottom without the loss of any slurry or loss of returns at the surface, indicating that the sealing material had built up a seal within the highly permeable formation. Thus was completed a 100 per cent successful performance on the very first use of the selected material at Fitts.

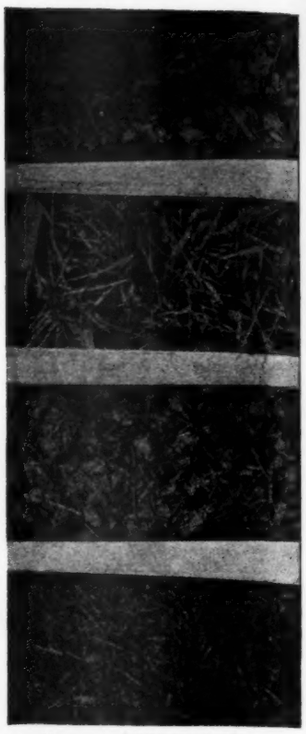
Result of Study

One result of a study of that job was an idea which appears to have a very important bearing on quickly overcoming loss of cement slurry in formations in the Fitts Pool and perhaps in other areas where similar problems exist.

The idea, briefly, consists of drilling wells through those formations in which loss of drilling mud is encountered or in which it is felt that loss of cement slurry is likely to be encountered later, in the following manner:

Drill a limited amount of hole, like 25, 50 or 100 feet, unless some loss of mud is encountered sooner. Raise the drill stem until the bit is at the upper part of the limited section just drilled, close the blow-out preventer and apply at least 1,000 pounds per square inch pump pressure on the mud fluid, either through the drill pipe or on the bradenhead in an attempt to break the seal normally established by the mud while drilling, but which may be later overcome by cement slurry when cementing. If the formations do not take mud under the pump pressure then release the pressure, open the blow-out preventer, lower the drill pipe and drill another limited amount of hole and repeat the application of pump pressure. If while drilling, or if in any of these pressure applications, a formation starts taking fluid, then a special batch of mud containing the sealing material can be pumped down through the drill pipe and the only place for the sealing material to travel when the blow-out preventer is closed, is into the "thirsty" permeable formation. The sealing material is pumped into the formation until a seal has been built up to withstand the pump pressure test. In operations of this type it would be economical and would facilitate matters to have an extra slush pit containing drilling mud with which the sealing material was already mixed.

The successive repeating of the pressure tests and sealing operations throughout any series of suspicious formations which cause the loss of mud fluid or cement slurry, would allow the drilling operation to be carried out with a minimum loss of mud, would reduce the salt water inflows, would allow the placing of a proper amount of cement slurry behind the casing to seal off the supercharged shallow sands and would prevent leakage of gas from the shallow sands into the space behind the casing.



Sealing materials used in experiments

Although the best time to obtain a seal of permeable formations is during the drilling of the formations, yet another effort has been carried on at Fitts whereby the sealing material was mixed with the cement itself in order to make the cement slurry "self-sealing" in case it started to go out into some formation. This self-sealing cement slurry was figured to be applicable to such cases wherein either a complete seal could not be obtained during the drilling operation or for some reason may not be considered advisable.

Up to the present time, nine strings of casing have been cemented in the Fitts Pool with cement slurry containing sealing material. These strings of casing ranged from surface pipe down to production strings. They were cemented with a total of 5,375 sacks of cement mixed with 2 per cent (by weight) of sealing material, amounting to only 5⅝ tons. Each of these jobs was a complete success.

Interesting Job

One of these jobs was especially interesting. A string of 9⅝-inch casing had been run to 2,730 feet in the well and it was contemplated cementing this string from top to bottom. Theoretically, it would have taken 784 sacks of cement to fill the annular space behind this casing. However, by use of an indicator in the mud and measuring the mud until the indicator was pumped down through the casing and up to the surface on the outside of the casing, it was figured that it would take 800 sacks. In as much as the operator anticipated loss of returns while the cement was being placed, 1,000 sacks of cement, mixed with 2 per cent of sealing material, was thoroughly mixed and pumped into the casing, followed by 50 sacks of neat cement without sealing material. The cement slurry averaged 14.8 pounds per gallon and at one time while it was being pumped into place

(Continued on Page 86)

[1]Halliburton Oil Well Cementing Co., Duncan, Okla.
[2]Phillips Petroleum Co., Oklahoma City, Okla.
*Before Mid-Continent District, A.P.I. Division of Production, Amarillo, Tex., April 11. Author's title: "Preventing Loss of Circulation and Cement in the Fitts Pool."

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Bureau of Mines Report for February

SUPPLY AND DEMAND OF ALL OILS

(Thousands of barrels of 42 gallons)

	February, 1935	January, 1935	February, 1934	Jan.-Feb., 1935	Jan.-Feb., 1934
NEW SUPPLY:					
Domestic production:					
Crude petroleum	72,763	78,715	65,450	151,478	137,426
Daily average	2,599	2,539	2,338	2,567	2,329
Natural gasoline	2,952	3,286	2,795	6,238	5,819
Benzol*	148	147	132	295	262
Total production	75,863	82,148	68,377	158,011	143,507
Daily average	2,709	2,650	2,442	2,678	2,462
Imports†:					
Crude petroleum:					
Bonded warehouses	773	549	140	1,322	342
For domestic use	1,130	1,462	2,891	2,592	5,488
Refined products:					
Bonded warehouses	812	972	558	1,784	1,630
For domestic use	974	1,101	77	2,075	249
Total new supply, all oils	79,552	86,232	72,043	165,784	151,217
Daily average	2,841	2,782	2,573	2,810	2,563
Decrease in stocks, all oils	‡2,922	‡1,231	3,971	‡4,153	8,449
DEMAND:					
Total demand	76,630	85,001	76,014	161,631	159,666
Daily average	2,737	2,742	2,715	2,740	2,706
Exports:					
Crude petroleum	2,804	2,369	2,511	5,173	4,799
Refined products	3,756	6,411	5,423	10,167	10,704
Domestic demand:					
Motor fuel	26,509	28,062	25,048	54,571	54,464
Kerosene	4,597	4,299	4,154	8,896	8,399
Gas oil and fuel oil	29,643	33,751	29,734	63,394	62,446
Lubricants	1,297	1,557	1,302	2,854	2,742
Wax	64	69	83	133	172
Coke	593	702	805	1,295	1,861
Asphalt	612	592	359	1,204	761
Road oil	124	156	151	280	316
Still gas (production)	3,513	3,808	3,050	7,321	6,507
Miscellaneous	160	203	147	363	188
Losses and crude used as fuel	2,958	3,022	3,247	5,980	6,307
Total domestic demand	70,070	76,221	68,080	146,291	144,163
Daily average	2,503	2,459	2,431	2,480	2,443
STOCKS:					
Crude petroleum	337,319	338,174	351,641	337,319	351,641
Natural gasoline	4,781	4,530	3,785	4,781	3,785
Refined products	226,201	222,675	238,338	226,201	238,338
Total, all oils	568,301	565,379	593,764	568,301	593,764
Days' supply	208	206	219	207	219

*From Coal Division. †Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce. ‡Increase.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 gallons)

	February, 1935 Total	February, 1935 Daily av.	January, 1935 Total	January, 1935 Daily av.	Jan.-Feb., 1935	Jan.-Feb., 1934
CRUDE PETROLEUM:						
Runs to stills	70,817	2,529	75,456	2,434	146,273	137,982
MOTOR FUEL:						
Production	33,584	1,199	36,236	1,169	69,820	65,038
Imports:						
Bonded warehouses	20	1	.....	.....	20	.....
For domestic use	.....	.....	.....	.....	.....	1
Exports*	1,171	42	2,125	69	3,296	3,965
Stocks, gasoline	58,939	.....	53,266	.....	58,939	62,119
Stocks, natural gasoline	4,781	.....	4,530	.....	4,781	3,785
Domestic demand	26,509	947	28,062	905	54,571	54,464
KEROSENE:						
Production	4,791	171	5,011	162	9,802	8,468
Imports	.....	.....	.....	.....	.....	.....
Exports	463	17	722	23	1,185	1,327
Stocks	6,119	.....	6,388	.....	6,119	5,299
Domestic demand	4,597	164	4,299	139	8,896	8,399
GAS OIL AND FUEL OIL:						
Production	25,233	901	27,193	877	52,426	51,049
Transfers†	1,092	39	838	27	1,930	1,827
Imports:						
Bonded warehouses	791	28	972	31	1,763	1,628
For domestic use	919	33	1,072	35	1,991	181
Exports	1,481	53	2,547	82	4,028	3,784
Stocks	101,085	.....	104,174	.....	101,085	111,459
Domestic demand	29,643	1,059	33,751	1,089	63,394	62,446
Railroad (Class I)‡	(§)	(§)	3,928	127	¶3,928	6,956
Pub. util. pow. plants‖	786	28	896	29	1,682	1,791
Other	28,857	1,031	28,927	1,033	57,784	53,699
Bunker oil	2,054	73	2,394	77	4,448	4,923
LUBRICANTS:						
Production	2,028	72	2,175	70	4,203	4,063
Imports	.....	.....	.....	.....	.....	.....
Exports	415	15	849	27	1,264	1,231
Stocks	7,416	.....	7,100	.....	7,416	7,120
Domestic demand	1,297	46	1,557	50	2,854	2,742
WAX (thous. of pounds):						
Production	35,280	1,260	36,960	1,192	72,240	85,680
Imports:						
Bonded warehouses	112	4	112	4	224	444
For domestic use	1,661	59	2,933	94	4,594	12,316
Exports	14,498	518	15,701	506	30,199	35,278
Stocks	145,744	.....	141,252	.....	145,744	83,791
Domestic demand	18,063	645	19,188	619	37,251	48,204
COKE (short tons):						
Production	110,000	3,929	116,000	3,742	226,000	247,800
Stocks	353,400	.....	374,800	.....	353,400	594,600
ASPHALT (short tons):						
Production	132,200	4,721	147,300	4,752	279,500	250,800
Imports (natural)	8,500	304	3,200	103	11,700	3,600
Stocks	377,700	.....	366,400	.....	377,700	330,600

*Includes benzol 17,515 bbls. in January, 1935. †Net transfers in California. ‡I.C.C. §Not available. ¶January only. ‖U.S.G.S.

PRODUCTION OF CRUDE PETROLEUM BY DISTRICTS

(Thousands of barrels of 42 gallons)

	February, 1935 Total	February, 1935 Daily av.	January, 1935 Total	January, 1935 Daily av.	Jan.-Feb., 1935	Jan.-Feb., 1934
Appalachian:						
Pennsylvania Grade	1,963	70.1	2,120	68.4	4,083	3,522
Other (inc. Kentucky)	531	19.0	583	18.8	1,114	941
Lima-N. E. Ind.-Mich.	1,083	38.7	1,104	35.6	2,187	1,780
Ill.-S. W. Ind.	351	12.6	391	12.6	742	854
Mid-Continent:						
N. La. and Ark.	1,484	53.0	1,590	51.3	3,074	3,427
W. Texas-S. E. New Mex.	5,632	201.2	6,188	199.6	11,820	10,031
East Texas	13,808	493.1	14,257	459.9	28,065	27,156
Other (Okla., Kans., N. Tex., etc.)	25,270	902.5	27,352	882.3	52,622	48,498
Gulf Coast	7,267	259.5	7,990	257.8	15,257	11,978
Rocky Mountain	1,411	50.4	1,629	52.5	3,040	2,470
California	13,969	498.6	15,511	500.4	29,470	26,757
Other*	4	.....	(†)	(†)	4	2
Total	72,763	2,598.7	78,715	2,539.2	151,478	137,426

*Includes Missouri, Tennessee, and Utah. †Not available.

PRODUCTION OF CRUDE PETROLEUM BY STATES AND PRINCIPAL FIELDS

(Thousands of barrels of 42 gallons)

	February, 1935		January, 1935		Jan.-Feb.,	Jan.-Feb.,
	Total	Daily av.	Total	Daily av.	1935	1934
Arkansas	844	30.1	882	28.5	1,726	1,809
California:						
Huntington Beach	1,092	39.0	1,212	39.1	2,304	2,284
Kettleman Hills	1,898	67.8	2,104	67.9	4,002	2,991
Long Beach	1,843	65.8	1,930	62.3	3,773	3,412
Santa Fe Springs	1,057	37.8	1,200	38.7	2,257	2,440
Rest of State	8,069	288.2	9,065	292.4	17,134	15,630
Total California	13,959	498.6	15,511	500.4	29,470	26,757
Colorado	117	4.2	116	3.7	233	170
Illinois	395	10.6	332	10.7	627	730
Indiana	56	2.0	59	1.9	115	124
Kansas	4,177	149.2	4,246	137.0	8,423	6,624
Kentucky	405	14.5	445	14.4	850	692
Louisiana:						
Gulf Coast	2,540	90.7	2,727	88.0	5,267	2,581
Rest of State	640	22.9	708	22.8	1,348	1,618
Total Louisiana	3,180	113.6	3,435	110.8	6,615	4,199
Michigan	1,019	36.4	1,028	33.1	2,047	1,635
Montana	301	10.7	374	12.1	675	429
New Mexico	1,402	50.1	1,663	53.6	3,065	2,505
New York	319	11.4	357	11.5	676	552
Ohio:						
Central and Eastern	248	8.8	264	8.5	512	494
Northwestern	64	2.3	76	2.5	140	145
Total Ohio	312	11.1	340	11.0	652	639
Oklahoma:						
Oklahoma City	4,201	150.0	4,949	159.6	9,150	10,189
Seminole	3,449	123.2	3,708	119.6	7,157	6,201
Rest of State	6,080	217.1	6,559	211.6	12,639	12,323
Total Oklahoma	13,730	490.3	15,216	490.8	28,946	28,713
Pennsylvania	1,214	43.4	1,304	42.1	2,518	2,104
Texas:						
Gulf Coast	4,727	168.8	5,263	169.8	9,990	9,397
West Texas	4,260	152.2	4,561	147.1	8,821	7,595
East Texas	13,808	493.1	14,257	459.9	28,065	27,156
Panhandle	1,730	61.8	1,827	58.9	3,557	2,797
Rest of State	5,633	201.2	6,063	195.6	11,696	10,364
Total Texas	30,158	1,077.1	31,971	1,031.3	62,129	57,309
West Virginia	308	11.0	333	10.7	641	631
Wyoming:						
Salt Creek	499	17.8	539	17.4	1,038	1,034
Rest of State	464	16.6	564	18.2	1,028	768
Total Wyoming	963	34.4	1,103	35.6	2,066	1,802
Other*	4	.....	(†)	(†)	4	2
Total United States	72,763	2,598.7	78,715	2,539.2	151,478	137,426

*Includes Missouri, Tennessee, and Utah. †Not available.

STOCKS OF CRUDE PETROLEUM

(Thousands of barrels of 42 gallons)

	Feb. 28, 1935	Jan. 31, 1935	Feb. 28, 1934
At refineries by location:			
East Coast: Domestic	10,654	10,743	9,455
Foreign	2,249	2,452	3,203
Appalachian	1,426	1,426	1,755
Indiana, Illinois, Kentucky, Michigan	4,304	4,028	4,241
Oklahoma, Kansas and Missouri	6,428	5,954	6,007
Texas: Inland	1,352	1,592	1,865
Gulf Coast: Domestic	10,944	*10,659	11,108
Foreign	538	*623	197
Louisiana Gulf Coast: Domestic	3,507	*3,560	3,588
Foreign	713	*602	604
Arkansas and Inland Louisiana	761	688	893
Rocky Mountain	13,440	13,385	12,666
California	8,514	8,414	8,341
Total	64,830	64,306	63,923
At refineries by origin:			
Pennsylvania Grade	1,196	1,148	1,518
Other Appalachian (inc. Kentucky)	653	653	580
Lima-NE Indiana-Michigan	311	314	506
Illinois-SW Indiana	150	124	160
N. Louisiana and Arkansas	2,049	2,051	2,569
West Texas and SE New Mexico	4,051	4,397	3,845
East Texas	6,659	6,279	9,500
Oklahoma, Kansas, North Texas, etc.	16,628	16,379	15,057
Gulf Coast	7,704	7,527	5,203
Rocky Mountain	13,415	13,353	12,640
California	8,514	8,414	8,341
Foreign	3,500	3,677	4,004
Total	64,830	64,306	63,923
Pipe line and tank farm:			
Pennsylvania Grade	3,497	3,598	3,675
Other Appalachian (inc. Kentucky)	507	574	903
Lima-NE Indiana-Michigan	1,008	927	1,247
Illinois-SW Indiana	11,321	11,278	11,052
N Louisiana and Arkansas	7,764	7,751	8,969
West Texas and SE New Mexico	26,498	26,368	27,161
East Texas	25,100	25,305	36,034
Oklahoma, Kansas, North Texas, etc.	133,771	134,559	139,381
Gulf Coast	12,122	12,136	10,750
Rocky Mountain	14,872	14,838	15,110
California	27,271	27,667	25,009
Total	263,731	265,001	279,291
Lease (producers') stocks	8,758	8,867	8,427
Total refinable crude in the United States	337,319	338,174	351,641

*Revised.

PRODUCTION OF MOTOR FUEL

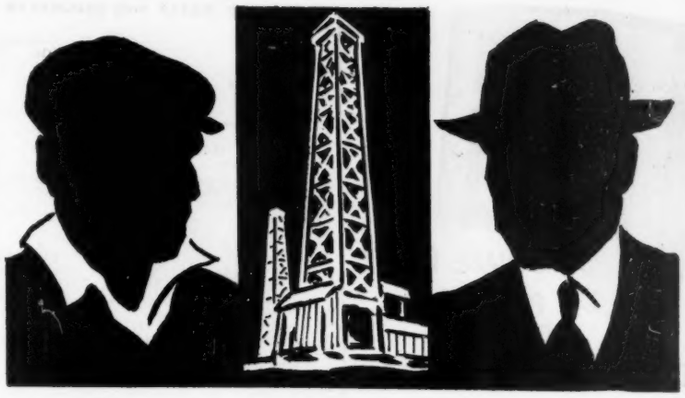
(Thousands of barrels of 42 gallons)

	February, 1935		January, 1935		Jan.-Feb.,	Jan.-Feb.,
	Total	Daily av.	Total	Daily av.	1935	1934
Refinery gasoline:						
Straightrun	15,610	558	17,221	555	32,831	32,323
Cracked	15,046	537	15,781	509	30,827	27,450
Natural gasoline:						
Production	2,952	105	3,286	106	6,238	5,819
Deduct losses	172	6	199	6	371	816
Benzol	148	5	147	5	295	262
Total motor fuel	33,584	1,199	36,236	1,169	69,820	65,038

SHIPMENTS OF MOTOR FUEL BY PIPE LINES

(Thousands of barrels of 42 gallons)

	Feb., 1935	Jan., 1935	Feb., 1934	Jan.-Feb., 1935	Jan.-Feb., 1934
Motor fuel turned into lines	3,286	3,992	2,984	7,278	6,258
Motor fuel delivered from lines	3,298	3,654	2,951	6,952	6,308
Shortage	12	52	9	64	15
Stocks in lines and working tanks end of month	2,305	2,329	1,250	2,305	1,250



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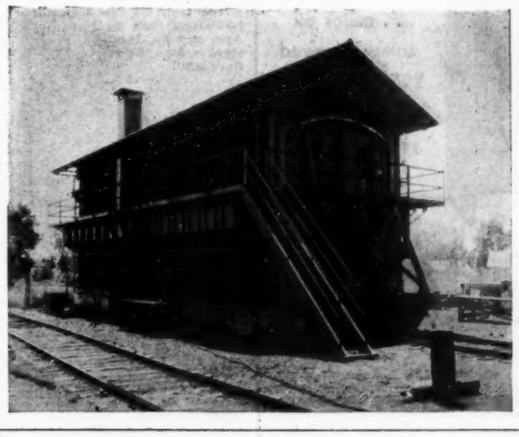

THIS Annealing Oven is capable of stress-relieving vessels up to 11' diameter and 100' in length, and with our X-ray Department places us in position to supply A.P.I.-A.S.M.E. Code Vessels to meet your requirements.

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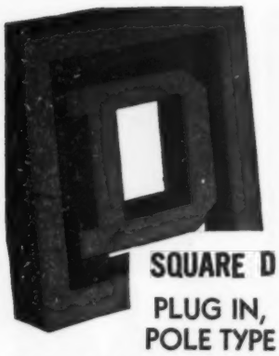
Subsidiary of Mt. Vernon Car Mfg. Co.
MOUNT VERNON, ILL.

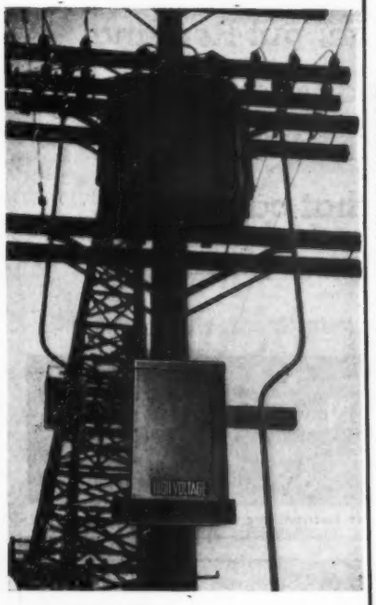


SQUARE D

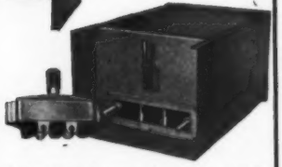
PLUG IN, POLE TYPE

DISCONNECT SWITCH

(weather proof)



A major oil company saved $25 per installation on 102 producing wells



The function of this switch is for use with portable oil well hoisting rig mounted on motor truck. Installed on service pole at each well, it offers a practical, safe, accessible, sturdy, interchangeable and positive interlocking switch to replace old style pole top switch with terminal box.

The plug, illustrated, carried on truck, is provided with a stuffing gland holding 4 conductor cables independent of terminal connections — 3 for three phase plug contacts in switch; the fourth conductor is permanently grounded to plug casting. Inserted in switch, it establishes a quick, positive contact. It cannot be inserted or removed unless switch is in open position. Dissimilar dowels prevent insertion of plug wrong way, preventing phase reversal.

Safety features: Switch handle may be locked to prevent tampering; enclosed in weatherproof apron; live parts cannot be contacted by operator; special locking discs prevent plug from falling out; all live parts of switch cadmium plated; enclosure 10 ga. galvanized steel; weather resisting aluminum finish.

CALL IN A SQUARE D MAN

SQUARE D COMPANY, INC.

Los Angeles • San Francisco • Denver

SQUARE D COMPANY OF TEXAS

Houston Dallas

RECORD OF WELLS FOR IMPORTANT FIELDS AND DISTRICTS, FEBRUARY, 1935*

	Completions			Ttl. initial production	Avg. initial production	Drilling end month
	Oil	Gas	Dry	(bbls.)	(bbls.)	
Texas	583	24	173	610,900	6,050	1,036
East Texas	311	0	7	528,700	1,700	188
Gulf Coast	50	7	17	22,700	455	119
Panhandle	40	8	2	19,200	480	122
West Texas	40	0	6	15,200	480	180
California	52	0	26	70,500	1,355	207
Kettleman Hills	5	0	0	22,400	4,480	20
Long Beach	7	0	0	3,400	485	24
Oklahoma	72	11	26	37,700	525	475
Pontotoc County (Fitts)†	12	0	1	18,900	1,575	64
Seminole district	11	3	4	6,300	575	35
Louisiana	24	4	18	11,400	475	136
Gulf Coast	16	0	10	10,900	680	72
Rest of State	8	4	8	500	65	64
Other states	272	100	84	89,900	330	1,023
Total U. S., Feb., 1935	1,103	139	327	820,400	745	2,877
January, 1935	1,004	120	336	816,400	815	2,758
February, 1934	810	84	256	722,000	900	2,546
January-February, 1935	1,720	204	618	1,601,200	930	5,145
January-February, 1934						

*From The Oil and Gas Journal and California Office of the American Petroleum Institute. †Pontotoc (Fitts) for January: Oil, 3; gas, 1; dry, none; total initial production 15,100 bbls.

STOCKS OF CRUDE PETROLEUM BY STATES AND BY LOCATION

(Thousands of barrels of 42 gallons)

	February 28, 1935				January 31, 1935			
	Refinery	Tank farm and pipe line	Lease	Total	Refinery	Tank farm and pipe line	Lease	Total
Arkansas	601	3,063	310	3,974	481	2,878	315	3,674
California	8,514	27,271	1,662	37,447	8,414	27,667	1,742	37,823
Colorado	293	94	25	412	310	120	22	452
Georgia*	649	0	0	649	752	0	0	752
Illinois	1,325	10,858	110	12,293	1,340	10,631	120	12,091
Indiana	1,397	1,849	8	3,254	1,281	1,880	8	3,169
Kansas	2,530	10,753	350	13,633	2,309	10,763	400	13,472
Kentucky†	500	401	40	941	524	457	40	1,021
Louisiana‡	4,380	6,038	440	10,858	4,369	6,587	480	11,436
Maryland	1,075	0	0	1,075	1,171	0	0	1,171
Massachusetts§	1,059	0	0	1,059	1,033	0	0	1,033
Michigan	131	597	90	818	130	502	82	714
Missouri¶	173	3,212	0	3,385	174	3,132	0	3,306
Montana	297	860	80	1,237	265	822	80	1,167
New Jersey	5,122	416	0	5,538	5,549	443	0	5,992
New Mexico	6	445	230	681	7	452	230	689
New York	1,323	115	18	1,456	1,215	125	18	1,358
Ohio	1,117	6,958	80	8,155	1,117	7,032	80	8,229
Oklahoma	3,725	74,809	1,780	80,314	3,471	75,924	1,800	81,195
Pennsylvania	4,848	1,706	105	6,659	4,646	1,732	105	6,483
Texas	12,834	98,540	2,900	114,274	12,874	98,158	2,820	113,852
Utah	245	0	0	245	266	0	0	266
West Virginia	87	1,868	145	2,100	71	1,833	145	2,049
Wyoming‖	12,599	13,878	385	26,862	12,537	13,863	380	26,780
Total United States	64,830	263,731	8,758	337,319	64,306	265,001	8,867	338,174

*Includes South Carolina and Virginia. †Includes Tennessee. ‡Includes Alabama. §Includes Rhode Island. ¶Includes Iowa. ‖Includes Nebraska and South Dakota.

RUNS TO STILLS AND OUTPUT OF REFINERIES, FEBRUARY, 1935

(Thousands of barrels of 42 gallons)

	Crude runs			Unfinished rerun (net)		
INPUT—	Domestic	Foreign	Total	Crude gasoline	Other	Natural gasoline
East Coast	11,746	1,505	13,251	—137	—513	90
Appalachian	2,848	....	2,848	— 50	185	34
Ind., Ill., Ky., etc.	9,086	....	9,086	— 35	— 70	204
Okla., Kans., Mo.	7,404	....	7,404	—154	212	477
Texas Inland	4,740	....	4,740	— 30	— 84	326
Texas Gulf	14,888	508	15,396	— 83	—157	135
Louisiana Gulf	3,084	57	3,141	— 37	197	20
Ark. and La. Inland	1,218	....	1,218	9	— 48	19
Rocky Mountain	1,247	....	1,247	— 6	8	66
California	12,486	....	12,486	— 88	43	*680
Total	68,747	2,070	70,817	—610	—227	2,051

OUTPUT—	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Lubricants	Wax (thou. of lbs.)
East Coast	5,324	902	1,291	3,308	641	15,630
Appalachian	1,405	239	220	418	390	7,000
Ind., Ill., Ky., etc.	5,231	326	813	1,392	211	2,800
Okla., Kans., Mo.	4,375	485	584	1,545	238	3,360
Texas Inland	2,538	277	323	1,449	20	280
Texas Gulf	6,530	1,500	1,734	4,018	338	3,080
Louisiana Gulf	1,218	431	447	856	16	1,120
Ark. and La. Inland	591	74	78	328	12	....
Rocky Mountain	690	60	68	305	18	1,960
California	4,800	497	1,589	5,529	144	....
Total	32,702	4,791	7,147	19,178	2,028	35,280

OUTPUT (Contd.)—	Coke (tons)	Asphalt (tons)	Road oils	Still gas	Miscellaneous	Storage
East Coast	11,200	51,300	....	695	79	57
Appalachian	2,400	3,600	....	172	20	96
Ind., Ill., Ky., etc.	48,200	39,300	41	702	10	—8
Okla., Kans., Mo.	16,800	900	18	385	16	192
Texas Inland	2,600	....	20	95	2	214
Texas Gulf	15,200	8,000	3	867	24	147
Louisiana Gulf	6,200	6,900	....	159	1	90
Ark. and La. Inland	200	6,500	17	32	5	24
Rocky Mountain	7,200	200	36	68	1	25
California	....	15,500	62	338	†23	54
Total	110,000	132,200	197	3,513	181	891

*Includes 41,000 bbls. run through pipe lines. †Includes 5,000 bbls. liquefied petroleum gas made from natural gasoline.

CRACKED OPERATIONS

Fresh cracking stock charged to stills; crude, barrels	4,627,000
Other oils, barrels	24,185,000
Gasoline produced by cracking, barrels	15,046,000
Fuel oil produced by cracking, barrels	14,982,000

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE

(Thousands of barrels of 42 gallons)

	February, 1935		January, 1935		Jan.-Feb., 1935	Jan.-Feb., 1934
	Total	Daily av.	Total	Daily av.		
Production	2,952	105	3,286	106	6,238	5,819
Decrease in all stocks	0	0	0	0	0	0
Total	2,952	105	3,286	106	6,238	5,819
Blended at refineries	2,005	72	2,276	74	4,281	3,905
Run through pipe lines in California	41	1	52	2	93	256
Jobbers, exports, etc.	483	17	445	14	928	712
Increase in all stocks	251	9	314	10	565	130
Losses	172	6	199	6	371	816
Total	2,952	105	3,286	106	6,238	5,819

This man is going to learn a HOLE lot about Drilling Straight with the

H-K

(HEWITT) (KUSTER)

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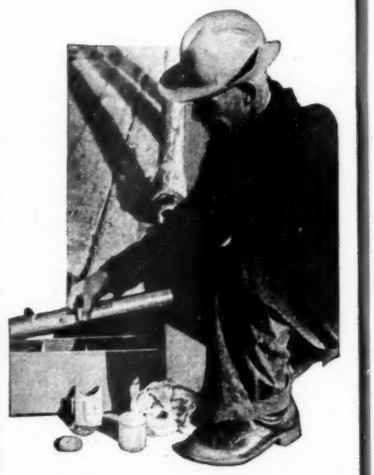

Lowered on a sand or bailing line at a speed ranging from 400 to 800 feet per minute, means that the H-K Clinograph gives you in single readings an accurate, speedy and economical record of both the direction and amount of drilling deviation. It is the most recent and improved instrument for use in open hole drilling.

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Even the cleverest chef

Can't turn CHUCK STEAK into TENDERLOIN

You can do wonders with chuck steak—but, disguise it as you will, it never was—it never will be—tenderloin.

Crude oils are like that. Refiners have developed their processes wonderfully, so that they can make pretty good motor oils from inferior crudes. But, no matter what they do, they can't accomplish as much with such crudes as they can with Pennsylvania Grade Crude.

This crude is a *naturally better* raw material... an *exclusive advantage* of refiners using Pennsylvania Grade Crude. The motor oils they make, and sell under the insignia of the Pennsylvania Grade Crude Oil Association, are *better oils from the ground up*.

These facts are being presented to millions of motorists in the Association's great 1935 advertising program. This is the twelfth year of continuous national advertising by this Association. No wonder each year more and more motorists demand genuine emblem-protected Pennsylvania motor oils!

This campaign means more business—and better business—for all who sell emblem-protected Pennsylvania motor oils!

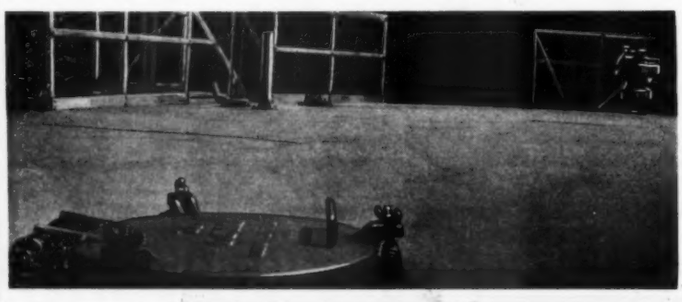
PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
Oil City, Pennsylvania

This is the famous Pennsylvania emblem—the insignia of this Association. It is not a brand, nor does it guarantee equal quality among the brands which display it. It guarantees that the member's motor oil sold under it meets the minimum standards set by this Association, and is made 100% from Pennsylvania Grade Crude Oil. It pays to sell under this emblem.

BUT . . . .

YOU CAN SLEEP PEACEFULLY WHEN YOUR TANKS ARE OCECO EQUIPPED

No tank equipped to OCECO specifications has ever been lost by fire.



The Johnston & Jennings Co.
OCECO Division
877 Addison Road Cleveland, Ohio

GASOLINE PRODUCTION BY THE VARIOUS METHODS, FEBRUARY, 1935

(Thousands of barrels of 42 gallons)

	Straightrun	Pct.		Cracked	Pct.		Nat. g'oline	Pct.	Gasoline	Pct.
	Total	(*)	(†)	Total	(*)	(†)	Total	(†)	Total	(*)
East Coast	2,338	17.6	43.9	2,896	21.9	54.4	90	1.7	5,324	39.5
Appalachian	723	25.4	51.5	648	22.7	46.1	34	2.4	1,405	48.1
Ind., Ill., etc.	2,095	23.0	40.0	2,932	32.3	56.1	204	3.9	5,231	45.3
Okla., Kans., Mo.	2,016	27.2	46.1	1,882	25.4	43.0	477	10.9	4,375	52.6
Texas Inland	1,436	30.3	56.6	776	16.4	30.6	326	12.8	2,538	46.7
Texas Gulf	3,075	20.0	47.1	3,320	21.5	50.8	135	2.1	6,530	41.5
Louisiana Gulf	668	21.2	54.9	530	16.9	43.5	20	1.6	1,218	38.1
Ark. and La. Inland	299	24.6	50.6	273	22.4	46.2	19	3.2	591	47.0
Rocky Mountain	327	26.2	47.4	297	23.8	43.0	66	9.6	690	50.0
California	2,633	21.1	54.8	1,492	11.9	31.1	675	14.1	4,800	33.0
Total	15,610	22.0	47.7	15,046	21.3	46.0	2,046	6.3	32,702	43.3

*Per cent of crude run. †Per cent of total gasoline output.

STOCKS HELD BY REFINING COMPANIES, FEBRUARY 28, 1935

(Thousands of barrels of 42 gallons)

	Finished gasoline: At refineries	Finished gasoline: Bulk and pipe lines	Unfinished gasoline	Total gasoline	Kerosene	Gas oil and distillate fuel oils
East Coast	7,294	10,269	990	18,553	1,408	2,880
Appalachian	1,346	975	343	2,664	216	261
Ind., Ill., Ky., etc.	6,018	3,556	716	10,290	669	2,012
Okla., Kans., Mo.	4,050	2,097	823	6,970	512	942
Texas Inland	1,849	55	232	2,136	138	188
Texas Gulf	6,947	825	1,476	9,248	1,558	2,830
Louisiana Gulf	1,000	446	232	1,678	367	1,441
Ark. and La. Gulf	237	64	43	344	30	100
Rocky Mountain	985	0	114	1,099	148	183
California	8,822	2,104	980	11,906	1,073	5,423
Total	38,548	20,391	5,949	64,888	6,119	16,260

	Residual fuel oil	Lubricants	Wax (thousands of lbs.): Crude scale	Wax (thousands of lbs.): Refined	Wax (thousands of lbs.): Total
East Coast	6,411	2,422	26,910	33,888	60,798
Appalachian	344	975	18,123	2,945	21,068
Ind., Ill., Ky., etc.	2,562	592	15,095	1,637	16,732
Okla., Kans., Mo.	2,166	596	5,912	1,659	7,571
Texas Inland	1,829	108	0	164	164
Texas Gulf	6,625	1,651	2,863	21,625	24,488
Louisiana Gulf	3,063	90	575	1,283	1,858
Ark. and La. Inland	693	20	0	0	0
Rocky Mountain	443	89	11,903	1,162	13,065
California	60,689	873	0	0	0
Total	84,825	7,416	81,381	64,363	145,744

	Coke (tons)	Asphalt (tons)	Road oil	Miscellaneous	Other unfinished	Natural gasoline
East Coast	10,600	108,500	30	49	8,018	256
Appalachian	8,200	12,000	12	39	2,050	13
Ind., Ill., Ky., etc.	22,800	108,500	89	23	5,540	46
Okla., Kans., Mo.	35,000	8,300	145	25	5,367	51
Texas Inland	24,000	0	67	5	1,125	12
Texas Gulf	77,600	9,800	28	26	10,988	289
Louisiana Gulf	9,500	27,000	11	0	1,236	0
Ark. and La. Inland	100	46,900	26	1	349	6
Rocky Mountain	76,500	5,100	193	7	1,815	22
California	89,100	51,600	159	49	4,856	2,614
Total	353,400	377,700	760	224	41,344	3,309

Grand total stocks refined products 226,201,000 bbls.

MOVEMENT OF CRUDE OIL AND REFINED PRODUCTS TO EASTERN POINTS IN THE UNITED STATES

(Thousands of barrels of 42 gallons)

	Feb., 1935	Jan., 1935	Feb., 1934	Jan.-Feb., 1935	Jan.-Feb., 1934
California to East Coast:					
Gasoline	633	488	193	1,121	664
Natural gasoline	0	0	0	0	0
Kerosene	374	79	262	453	467
Gas oil and Diesel oil	135	313	270	448	780
Fuel oil	0	0	1,454	0	2,824
Lubricants	9	4	1	13	10
Miscellaneous	73	3	2	76	4
Total	1,224	887	2,182	2,111	4,749
Gulf to East Coast:					
Crude	11,398	12,026	(*)	24,232	(*)
Gasoline†	5,233	5,564	(*)	10,797	(*)
Kerosene	1,525	1,825	(*)	3,350	(*)
Gas oil and fuel oil	6,495	6,591	(*)	12,278	(*)
Lubricants	141	166	(*)	307	(*)
Miscellaneous	14	3	(*)	17	(*)
Total	24,806	26,175	(*)	50,981	(*)
Foreign crude to East Coast:					
Colombia	0	0	304	0	970
Ecuador	0	0	0	0	79
Mexico	0	138	678	138	1,221
Venezuela	1,308	1,582	1,797	2,890	3,240
Total	1,308	1,720	2,779	3,028	5,510
Foreign crude to Gulf Coast:					
Colombia	422	222	0	644	0
Mexico	0	0	146	0	215
Venezuela	173	69	106	242	106
Total	595	291	252	886	321

*Not available. †Includes natural gasoline.

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM

(Thousands of barrels of 42 gallons)

Domestic petroleum by fields of origin:	February, 1935: Total	February, 1935: Daily av.	January, 1935: Total	January, 1935: Daily av.	Jan.-Feb., 1935	Jan.-Feb., 1934
Appalachian:						
Pennsylvania Grade	2,003	71.5	2,237	72.2	4,240	3,910
Other (inc. Kentucky)	598	21.4	534	17.2	1,132	881
Lima-N. E. Ind.-Mich.	1,000	35.7	1,145	36.9	2,145	1,789
Ill.-S. W. Ind.	292	10.4	444	14.3	736	821
Mid-Continent:						
N. La. and Ark.	1,488	53.2	1,769	57.1	3,257	3,746
W. Texas-S. E. N. Mex.	5,838	208.5	5,306	171.2	11,144	11,785
East Texas	13,683	488.7	13,764	444.0	27,447	27,743
Other (Okla. Kans., N. Tex., etc.)	25,739	919.3	28,796	928.9	54,535	48,690
Gulf Coast	7,154	255.5	6,990	225.5	14,144	11,985
Rocky Mountain	1,307	46.7	1,479	47.7	2,786	2,196
California*	13,492	481.9	14,663	473.0	28,155	26,243
Other†	4	.....	(‡)	(‡)	4	2
Total demand	72,598	2,592.8	77,127	2,488.0	149,725	139,794
Exports	2,804	100.1	2,369	76.4	5,173	4,799
Domestic demand	69,794	2,492.7	74,758	2,411.6	144,552	134,995
Foreign petroleum	2,080	74.3	2,125	68.5	4,205	4,882
Total domestic demand	71,874	2,567.0	76,883	2,480.1	148,757	139,877

*Demand less net transfers from crude. †Includes Missouri, Tennessee, and Utah. ‡Not available.

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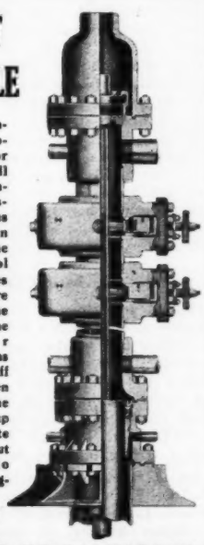

The Warren Control Head provides means for packing off drill pipe and attaching Christmas-tree connections in case of an emergency. One Shaffer Control Gate provides high pressure shut off on the drill pipe. The other Shaffer Control Gate has complete shut off rams for open hole. Thus the whole set up gives a complete compact blowout prevention to meet any emergency.

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Among Gulf Coast Drilling Contractors

B. J. (Bird) Smith is moving his heavy rig on to a location 1½ miles northwest of Cuero, on the Buschrell ranch, where he has a contract to drill a 5,500-foot well for W. R. Wellman of Tulsa. This is a wildcat job. Smith's light rig is preparing to deepen from 3,570 to 3,800 feet on the Dacus wildcat for James Woodward. This well was originally started for Pete Compton, who sold his interests to Mr. Woodward.

A. D. (Doug) Corgey, formerly a partner in the J. & C. Drilling Co., and regarded as one of the best well men and contractors in the Gulf Coast and Southwest Texas, has sold his interest in the J. & C. Drilling Co. and is contracting under his own name. Corgey makes his headquarters in Refugio.

George Echols, on his wildcat well for the Humble Oil & Refining Co. in Bee County, has a real wildcat on his hands. This well, a projected deep test, encountered a high pressure gas sand at approximately 3,900 feet. Several days ago the drill stem became stuck, and between trying to get loose with his pipe, and hold the pressure at the same time, Echols has had his hands full. Echols has a new location to drill for the Sun Oil Co. on the Santo Domingo de Arriba grant in Jim Hogg County. He is also drilling a well in the Manvel Field for the Commonwealth Oil & Gas Co., and has a rig drilling below 3,700 feet for the Felmont Oil Co. on a wildcat well in Bee County. A fifth location in Southwest Texas is expected early this week and will be announced next week. Blinkie Moser, well-known well digger and inventor, is now drilling for Echols. R. O. Sallie, who has been field superintendent for Echols in Southwest Texas, has been assigned to work in the Houston office hereafter and will have the title of superintendent out of the Houston office.

C. & K. Drilling Co. are drilling below 2,300 feet on their wildcat well near De-Ridder, La. Rig was shut down for a day recently for lack of water, the creek from which they were taking water having gone dry.

Smith & McDannald report three rig movements during the week, one rig being skidded from No. 1 Mrs. Carter, Roanoke, to the east offset in the same field for the Shell company. At Louise company has moved rig from No. 4 Stewart to No. 3 Stewart for the Pure Oil Co. A rig which finished a contract hole at Church Point recently has been moved to the Boscoe Field, Louisiana, to drill a new location for the Superior Oil Producing Co.

L. W. Capps is drilling below 3,400 feet on a well for the Arkansas Fuel Oil Co. in Austin County.

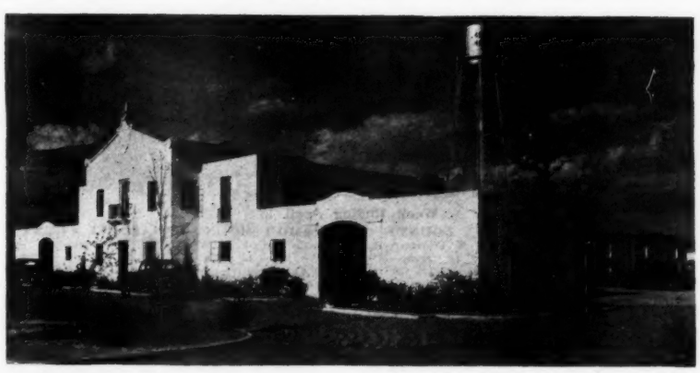
W. V. (Bill) Bowles has set oil string in the Manvel Field, Brazoria County, on No. 9 Houston Oil Field Association for the Texas Co., and has one rig waiting on orders on No. 2 Norvell for Bowles & Borsodi in the same field. It is expected to drill this well deeper in the expectation of picking up a better sand than the one cored.

Ben (Bud) Coyles has one rig running for the Republic Production Co. in the Arriola Field, near Beaumont, and has one rig running for the Fohs Oil Co. on No. 5 Castle at Gillis, La. It is probable that one or two new locations will be scheduled for Coyle's rigs during this week.

Glenn McCarthy is drilling below 3,800 feet on a well at Conroe for himself and others.

(Continued on Page 74)

Oil Men Guests at Opening of Manufacturing Plant



New plant and offices of Mission Manufacturing Co., Houston, Texas

HOUSTON, Tex., Apr. 15.—Several thousand oil men from the Gulf Coast and Mid-Continent were guests Saturday, April 13, of the Mission Manufacturing Co., Houston, Tex., at an entertainment which marked the official opening of the company's new $100,000 plant and offices.

Guests were shown through the offices and plant and as each passed through the rear exit the host awarded to all present a grand prize to commemorate the occasion. The special booth at which the prizes were bestowed became the focal point for more than an hour, and the hosts were persuaded to double and redouble the distribution of prizes. At dusk an elaborate barbecue dinner was served at tables surrounding an elevated squared ring in which, following dinner, a number of fast and interesting boxing matches were staged. Several guests noted for their handiness with their "dukes," were only persuaded from entering the ring by the masterly tact and diplomacy of Bert Childs, who acted as master of ceremonies and ring announcer. A battle royal, staged by five husky Senegambians, almost caused a riot when Mr. Childs denominated the participants with names whose familiarity to the oil world is, to say the least, widespread. A fast 10-round bout between Wildcat Monte and Salvadore had the crowd on its feet at the end of the entertainment.

Bedford Sharp, Dudley Sharp and T. Campbell, officials of the Mission Manufacturing Co., were roundly congratulated by the guests on the beauty of their new Mission style plant and office building, and on the elaborateness of the entertainment.

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THE OIL AND GAS JOURNAL

Extensive Development Program Is Under Way in Port Lavaca Field, North Calhoun County

By F L. SINGLETON
Gulf Coast Bureau, The Oil and Gas Journal

HOUSTON, Tex., Apr. 15.—One of the most extensive development programs on Gulf Coast for some time is getting under way in the Port Lavaca Field, northern Calhoun County, which received its first oil production last week, when Steinberger Petroleum Co. completed its No. 1 Shofner for an initial production of 574 bbls. in 24 hours through a one-quarter inch choke, with tubing pressure 1,450 pounds and casing pressure 1,350 pounds. The well, which is producing from 12 feet of Frio sand bottomed at 6,238 feet, increased its production considerably after it had thoroughly cleaned itself, and the area is now considered as one of the most important in the district.

The Texas Co., which holds considerable acreage in the area, announced locations for four tests, and will probably make 10 more this week for immediate drilling. Two miles south of the Shofner test in the Samuel Shupe Survey, material is being moved in for its No. 1 I. Blardone, located 1,650 feet from the east line and 1,350 feet from the north line of the lease. One mile northwest, contract has been let to Cron & Gracey to drill No. 1 Duelberg in the M. Sanches Survey, located 1,565 feet northeast along the south line from the southwest corner of the lease, and 390 feet north at right angles. Five miles southwest of production in the Florentina Garcia League, the company's No. 1 J. A. Martin is located 1,700 feet southwest along the north line from the northeast corner, and 1,400 feet at right angles in a southeast direction. One and one-half miles southwest of the Shofner test No. 1 H. C. Wehmeyer is located 900 feet northwest along the west line from the upper southwest corner of the lease and 1,213 feet northeast at right angles in the M. Sanches Survey. East of the Shofner test Halliburton Oil Producing Co.'s No. 1 Burton is located 660 feet due east in the M. Sanches Survey. It is reported that Steinberger Petroleum Co. and Magnolia Petroleum Co. are planning to drill within the near future.

While the Texas Pipe Line Co. will no doubt lay a trunk line out of the field, as soon as production justifies such, no survey has been made by the company for a line. The production from the Shofner test is being handled by a 4-inch line to a loading rack to Port Lavaca, and the company is laying a small gathering system in the field. Production from the producer is being purchased by the Texas Co. and approximately 1,500 bbls. has been shipped to the company's refinery at Houston.

Hastings

Another important extension to the Hastings Field, northeastern Brazoria County, was made when Stanolind Oil & Gas Co.'s No. 1 Steve Paul, approximately 2,100 feet south of the discovery well in the A.C.H.&B. Survey No. 2, was completed for an initial production of 20 bbls. per hour through a one-quarter-inch choke, with tubing pressure 875 pounds and casing pressure 775 pounds. The last 24-hour gauge ending 7 a.m. April 11, the well flowed 163 bbls. through a three-sixteenths-inch choke, with tubing pressure 825 pounds and casing pressure 625 pounds. This is the first well to be completed south of the discovery, and it adds much to the future possibilities of the field. The company's No. 1 J. W. Surface, the discovery well, which has been recompleted a number of times, possibly established the water level for the field when it was completed at its new depth of 6,154 feet. With 5-inch casing cemented at 6,035 feet, it flowed 155 bbls. of fluid the first 15 hours, of which 45 per cent was salt water, with tubing pressure 600 pounds and casing pressure 610 pounds. The screen and liner is being pulled and the operators will cement back and recomplete. The well was first completed as a producer at 5,990 feet. While the top of the salt water sand is not known, the sand section of the field is approximately 150 feet. Due north of the discovery approximately 2,100 feet, another extension looms at the company's No. 1 Wooster, located in the A.C.H.&B. Survey No. 1. It is bottomed at 6,082 feet, and with 7-inch casing cemented at 5,987 feet, the operators were preparing to drill the plug and test at the close of the week. If it makes a producer, it will be the fourth well to be completed in the field, extending production to the north, east and south.

Manvel

On the north end of the Manvel Field, Brazoria County, a production test of Bowles & Borsodi's No. 2 Norvell Investment Co., located approximately 1,000 feet east of the operators' No. 1, a producer, has been disappointing. Bottomed in the Marginulina sand at 5,682 feet and with 7-inch casing cemented at 5,604 feet it was first completed for an initial production of 11 bbls. per hour through a three-eighths-inch choke, with tubing pressure 100 pounds and casing pressure 600 pounds, but the well went dead shortly after being completed and the operators are now swabbing. It topped the gas sand at 5,604 feet and the oil sand at 5,634 feet. West of production in the E. Little Survey, Sterling Oil & Refining Co.'s No. 1 W. A. Gamble has reached the doubtful stage as it is drilling in sticky shale below 5,940 feet. It cored sandy shale with an odor of oil from 5,694-99 feet, and the operators made three attempts to make a drill stem test, but the seat failed to hold and the test was unsuccessful. This is the approximate depth from which Bowles & Borsodi's No. 1 Norvell Investment Co., located due east, is producing. Texas Co.'s No. 1 L. C. Dawson, Lot 29, H.T.&B. Survey No. 23, extended the shallow Miocene production approximately 500 feet north, when it was completed at a total depth of 4,035 feet for an initial production of 14 bbls. the first 12 hours, with tubing pressure 700 pounds. Seven-inch casing was cemented at 4,015 feet. Five locations were made in the field by the Texas Co., two of which are located approximately 1,700 feet west of production in the north end of the field. No. 1 O. W. Halligan is located in the center of Lot 27 in the H.T.&B. Survey No. 23. In Section 27 of the same survey the company has made location for another No. 1 O. W. Halligan. Both of these tests are important tests and will be watched with much interest.

Fresno

In the extreme northwestern Brazoria County on what is known as the Fresno area, Turnbull & Irwin are moving in material for a deep test to be drilled on the Olivia W. and R. H. Allison tract, located 2,200 feet west and 2,732.5 feet south from the northeast corner of the H.T.&B. Survey No. 79, or in the center of Lot No. 36. C. E. Holt and others No. 1 P. S. Griffith, a wildcat located in the J. B. Bailey Survey which has been shut down for several months at 4,173 feet, has started up and is drilling in shale below 5,240 feet.

Colorado County

Approximately 2½ miles south of the town of Rock Island, in the Rock Island area, Western Colorado County, Gulf Production has made a wildcat location for its No. 1 A. R. Milentz, located 990 feet north along the east line from the southeast corner of 160-acre lease, and 330 feet west at right angles in the I.&G.N.R.R. Survey, Section 33. This is the first activity to be started in Colorado County for some time.

Matagorda

Considerable attention is being centered on the west flank of the Markham Dome, northwestern Matagorda County, where Superior Oil & Gas Co. (formerly Hawk Oil Co.) is preparing to drill the plug on its No. 1 Hawk, which is bottomed in oil sand at 4,213 feet. It cored sand showing oil from 4,200-4,210 feet and 7-inch casing was cemented at 4,185 feet. If the test makes a producer it will open up production from an entirely new sand, as all commercial production developed on the dome, has been from the Miocene sand at depths from 2,200 to 3,300 feet.

Another test in the Dickinson Field, Galveston County, has reached the 9,000-foot horizon. It is Humble Oil & Refining Co.'s No. 1 Schaper, located southwest of No. 1-B Maco Stewart, a producer in the W. K. Wilson Survey which is coring in shale below 9,110 feet. The operators made a 36-minute drill stem test from 8,676-8,916 feet and recovered 10 thribbles of mud cut with oil and 43 thribbles of salt water. The company's other deep test, No. 1 Danielson in the John Sellers Survey is coring in shale below 9,282 feet.

Fairbanks

In the Fairbanks area, western Harris County, Hill & Hill's No. 1 Wharton was abandoned after it tested salt water the second time at a plugged back depth of 6,896 feet. It made salt water last week from 7,087-48 feet and was then drilled to a total depth of 7,205 feet. The test is located in Section 5, W.C.R.R. Survey. W. U. Paul's No. 2 House in the M. Magruder Survey, northeastern part of the county, is another wildcat test which will probably be abandoned during the week. Bottomed in the upper Saline Bayou at 7,765 feet, it showed 60 stands of salt water, and was then plugged back to 7,615 feet, where the operators perforated the 7-inch casing with 10 holes from 7,560-75 feet and it showed 76 fourbles of salt water with a very slight show of gas. It has been plugged back the second time, and will test through perforated casing from 7,509-19 feet.

Cleveland

Another short west extension to the Cleveland Field, Liberty County, was made by the completion of Gulf Production Co.'s No. 1 R. D. McDonald, a west offset to Black Gold Petroleum Co.'s No. 1 McDonald in the Charles Smith Survey. It was completed at 5,824 feet and made 30 bbls. of fluid in 12 hours, 4 per cent of which was wash water through a three-eighths inch choke with tubing pressure 1,675 pounds and casing pressure 1,975 pounds. The well was shut in shortly after being brought in and no good gauge on its actual production was obtained.

Jackson County

Much attention is being given Shell Petroleum Corp.'s No. 1 W. M. McCrory, a wildcat test located in the A. Kountze Survey, Jackson County, which is preparing to make a drill stem test after the operators had recovered 4½ feet of sand, carrying an odor of distillate from 5,469-74 feet. The last foot of the core had a strong taste of salt.

Another interesting wildcat is Arkansas Fuel Oil Co.'s No. 1 Herman W. Peschel, located 13 miles west of Bellville in the R. Stolze Survey. It cored shale, with streaks of sand carrying an odor of gas, and on a four-minute drill stem test from 2,989-3,030 feet it showed 5 fourbles and one joint of drilling mud, with a slight

Wildcat Operations on Gulf Coast

Week Ending April 13

RACCOON BEND—AUSTIN COUNTY

Humble O. & R. Co.'s No. 8-X Diemar, 1,458 ft. from NW line, 357 ft. from SW line of Wm. Harvey Sur.
10¾-in. csg. 1,141 ft.; drlg. shale and lime 1,810 ft.

Humble O. & R. Co.'s No. 3-A Machemehl, 1,105 ft. along SE line from SW cor. and 216 ft. at R/A to SE line, Wm. Smeathers Sur.
10¾-in. csg. 1,141 ft.; drlg. shale 3,296 ft.

Humble O. & R. Co.'s No. 7-X Ollie Wilson, 933 ft. SE from No. 6-X, 250 ft. from NE line, Wm. Harvey Sur.
10¾-in. csg. 1,105 ft.; drlg. sand 1,133 ft.

Humble O. & R. Co.'s No. 14-X Woodley, 354 ft. W from No. 8, 418 ft. from easterly NE line, 375 ft. from most easterly N cor. of lease.
T.D. 4,152 ft.; 7-in. csg. 4,115 ft.; prepare to install gas lift.

Humble O. & R. Co.'s No. 7-X Wilson, 2,095 ft. from SW cor., 464 ft. at R/A from SW line, Wm. Harvey Sur.
T.D. 4,323 ft.; I.P. 74 bbls. per day, pumping.

BLUE RIDGE—BRAZORIA COUNTY

San Jacinto Oil Co.'s No. 6 Blakely, 150 ft. N of No. 5 Blakely, Edward Drew Sur.
T.D. 4,038 ft.; I.P. 200 bbls. in 24 hrs. through ⅝-in. choke; tubing pressure 325 lbs.; csg. pressure, no gauge.

DANBURY—BRAZORIA COUNTY

Shell Pet. Corp.'s No. 7 Blakely-Winston, 63 deg. 11 min. E, 5,540 ft. N, 26 deg 49 min. W, 200 ft. from SW cor. of Blakely-Winston 640-ac. tract, H.T.&B. Sur.
T.D. 5,974 ft.; to perforate csg.

Shell Pet. Corp.'s No. 3 Haury, 800 ft. SE of No. 2 in line with No. 2 and No. 1 Blakely-Winston, H.&T.B. Sur. No. 13.
T.D. 7,168 ft.; to perforate csg.

DAMON MOUND—BRAZORIA COUNTY

Esco's No. 1-D Wisdom, 25 ft. from S and W lines of Blk. D. Lot 5, A. Darst Sur.
T.D. 1,509 ft.; prepare to pump.

Intercoastal Oil Co.'s No. 13 Wisdom, 150 ft. from NW line and 10 ft. from SW line of Lot "D," Blk. No. 51.
Spudded.

HASTINGS—BRAZORIA COUNTY

Stanolind O. & G. Co.'s No. 1 Grote, 460 ft. N and W of SE cor. of 71-ac. lease, A.C.H.&B. Sur.
Derrick.

Stanolind O. & G. Co.'s No. 1 Sneed, 495 ft. E along S line of Miller lease from SW cor. and 466 ft. S at R/A, A.C.H.&B. Sur. No. 2.
20-in. csg. 62 ft.; T.D. 64 ft.

Stanolind O. & G. Co.'s No. 2 Sneed, 491.5 ft. E, and 1,590 ft. S from NW cor. of Gilbert Sneed 225-ac. lease, A.C.H.&B. Sur. No. 2.
Rig up.

Stanolind O. & G. Co.'s No. 2 J. W. Surface, 375 ft. S and 466 ft. W from easterly NE cor. of 75.9-ac. lease, A.C.H.&B. Sur. No. 2.
Rig up.

Stanolind O. & G. Co.'s No. 1 Wooten, 466 ft. S of N line, 466 ft. from SE line of 70-ac. tract, A.C.H.&B. Sur. No. 1.
T.D. 6,082 ft.; 7-in. csg. 5,987 ft.

Stanolind O. & G. Co.'s No. 1 Steve Paul, 476 ft. from the E line and 466 ft. from N line of 160-ac. tract, A.C.H.&B. Sur. No. 2, 2,100 ft. S of discovery well
7-in. csg. 5,831 ft.; T.D. 6,018 ft.; I.P. 20 bbls. per hr. through ¼-in. choke; tubing pressure 875 lbs.; csg. pressure 775 lbs.

MANVEL—BRAZORIA COUNTY

Sam Bailing et al's No. 1 Still, located in

(Continued on Page 81)

odor of sulphur gas. It topped the Hockleyensis at 2,787 feet and is reported to be running "high." It is drilling in shale below 3,142 feet and should be in the Cockfield during the week.

Keeran

Two miles southwest of the Keeran Field, Victoria County, Don Moore and others' No. 1 Henderson and Pickering, in the W. M. Rupley Survey, has apparently extended the field, when it encountered sand from 6,005-18 feet and on a 15-minute drill stem test from 6,005-18 feet the operators recovered 20 fourbles of oil, with the pressure building up to 50 pounds through a one-quarter inch choke on bottom and a five-sixteenths inch choke on top. Casing is being run and the well will probably be given a production test the latter part of the week.

Roanoke

In the Roanoke Field, Jefferson Davis Parish, Humble Oil & Refining Co.'s No. 1 M. Kratzer, originally completed for a large gas well at 8,930 feet, was completed for one of the best producers in the field, when it was cemented back to 8,746 feet and the casing perforated from 8,695-8,705 feet. It flowed 60 bbls. per hour through a three-eighths inch choke, with 1,000 pounds tubing pressure and casing pressure 1,020 pounds. The same company's No. 3 DeVilbiss was plugged back to 8,746 feet and flowed at the rate of 300 bbls. of fluid per day through a three-eighths inch choke, 90 per cent of which is water and mud, with tubing pressure 400 pounds and casing pressure 450 pounds. It will no doubt be worked over. Shell Petroleum Corp. is preparing to make a drill stem test on its No. 1 R. C. Jarnigan located east of the discovery. The well was originally drilled to 10,000 feet, but was plugged back to 7,485 feet after the operators were unable to free the drill stem. A test will be made in sand from 7,564-85 feet, which showed possibilities on an electrical coring test. If test makes a producer from this sand, it will prove up a new sand for the field. Seven producers have been completed in the field, three from the deep pay at 8,700 feet and four from the 7,800-foot horizon.

Shell Petroleum Corp. made location for its No. 1-B Kratzer, located one-quarter mile north of the Jarnigan test and 660 feet north and 330 feet east of the SW cor. SE Section 1-9s-4w.

Gillis

In the Gillis Field, Calcasieu Parish, Fohs Oil Co.'s No. 2 Castle extended the producing limits of the field, when it was completed at a total depth of 7,041 feet for an initial production of 48 bbls. of distillate per day on a three-sixteenths inch choke, with casing pressure 2,500 pounds and tubing pressure 700 pounds. It is making approximately 1,000,000 feet of gas per day, and will probably be killed and drilled deeper in attempt to take in more oil sand. Seven-inch casing was cemented at 6,993 feet. Texas Co.'s No. 1 Nickerson in Section 12-9s-8w, originally completed for a gas well at 6,721 feet, is preparing to make an electrical coring test after it had been deepened to 6,751 feet. It cored sand showing oil from 6,743-51 feet and casing will probably be set just below top of the sand.

Texas Co.'s No. 1 Jessen, a deep wildcat located on a block of approximately 15,000 acres, 1 mile northwest of Cameron in Cameron Parish, has been abandoned at 9,030 feet. Location is in Section 24-14s-9w.

Five miles northeast of the Iowa Field and 3 miles northwest of the Welsh Field, in Jefferson Davis Parish, George W. Strake's No. 1 Calcasieu National Bank made an eight-minute drill stem test from 8,144-48 feet and tested 11 thribbles of salt water and 2 thribbles of mud with a little oil, and is now shut down at 8,148 feet in a sidetracked hole. It was drilled to 8,503 feet, but was plugged back and sidetracked.

In Iberville Parish, centering around Township 13s-13e, John Ferguson and others are reported assembling a large block, which has been worked several times with torsion balance by the Gulf Production Co.

Observes Thirty-fifth Anniversary

Employes of the Lufkin Foundry & Machine Co. for 30 years or more. W. C. Trout, president of company is shown standing at left, back row

Observing the thirty-fifth anniversary of the founding of the Lufkin Foundry & Machine Co., of Lufkin, Tex., the officers and directors of the company threw open its plant and properties for inspection of the public and set aside one day especially for the employes' families. During the three-day "open-house" more than 2,000 men, women and children visited and inspected the plant and were served refreshments as the guests of the management.

Eleven Completions in Central Ohio Area; Five Producers in the Kentucky Fields

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Apr. 15.—In Hardin County, Kenton Oil & Gas Co.'s No. 3 on the William J. McMahon farm, Section 17, Pleasants Township, was a gas well at 1,319 feet. Bert Sheldon has a rig for No. 2 on the Ora E. Rush farm, Section 31, Blanchard Township. In Buck Township, Summers Oil & Gas Co. is drilling No. 2 on the Aetna Life Insurance Co.'s property, Section 2.

In Seneca County, Tiffin Industrial Gas Co.'s No. 2 Charles H. Feasel farm, Section 32, Liberty Township, is a gas well at 473 feet.

In Wyandot County, Newcomer and others' No. 1 Hiram Stalter farm, Section 22, Pitt Township, is dry, and in Salem Township H. Bosse Brothers & Co.'s test on the Isaac Stansberry farm, Section 28, was dry at 1,200 feet. In Crane Township, Strouse and others have a rig on the Fred Mosier farm, Section 7, and Dempsey and others are drilling on the S. P. Hooper farm, same section. In Tymochtee Township, Murphy and others are drilling No. 2 on the Hakes & Fox farm, Section 5. In Pitt Township, Cessna & Feasel are drilling No. 1 Thomas Bowman farm, Section 15, and Wood and others are drilling No. 5 Edward Orton farm, Section 22, same township.

In Auglaize County, N. E. Masters & Co. are drilling No. 1 George Ruble farm, Section 11, Noble Township. In Douchouquet Township, C. Wentzer is drilling on the Wentzer farm, Section 28. Wayne Jones is drilling No. 2 A. and M. Roahrbach farm, Section 2, Salem Township.

In Allen County, H. C. Miller and others are drilling No. 1 Arthur B. Moorman farm, Section 35, Spencer Township.

In Darke County, Petro Producing Corp. is drilling No. 2 C. S. and Vesta Lemoyn farm, Section 35, Butler Township, and A. A. Lauber is drilling No. 1 J. W. Lange farm, Section 26, same township.

In Van Wert County, H. C. Miller is drilling No. 4 James P. Davis farm, Section 5, Jennings Township.

In Marion County, Claridon Oil Co. is drilling below 2,730 feet on the H. C. Barnhart farm, Section 11, Claridon Township.

CENTRAL OHIO

Eleven completions were reported in the Central Ohio Field, nine gas wells, two dry.

In Meiiina County, Glen Yannayan's No. 3 on his farm, is a gas well at 245 feet, and on Lot 21, Liverpool Township, Ohio Fuel Gas Co.'s No. 1-5,976 Charles Smith farm, Lot 18, Lafayette Township, is drilling. East Ohio Gas Co. is drilling No. 1 E. S. Culp farm, Lot 11, Chatham Township.

In Ashland County, Hulse & Kuntz have a rig on the Clarence Frankfelder farm, Section 16, Montgomery Township. Ohio Fuel Gas Co. has a rig for No. 1 Clare Osborn farm, Section 3, Perry Township, and a rig on the J. W. Mutchler farm, Section 3, Hanover Township.

In Stark County, Wittmer Co.'s No. 1 on the Anna Wagner farm, Section 5, Lawrence Township, is a gas well. In Jackson Township, East Ohio Gas Co. is drilling No. 1 T. and R. Sheetz farm, Section 3, and has a location for No. 2 Leatherman farm, Section 11. In Plain Township, East Ohio Gas Co. is drilling No. 2 John Fashnacht farm, Section 8.

In Meigs County, Irving Fleming's No. 1 on his own farm, Section 8, Rutland Township, is a gas well. J. T. Ledie & Co.'s No. 2 on the Sidenstricker & Ledie farm, Section 26, is drilling, as is Rutland Gas Co.'s No. 1 John L. Higley farm, Section 13, Rutland Township. In Salem Township, Ida M. Heacock's No. 2 Ida M. Heacock, is a gas well at 424 feet. Star Mills Co. is drilling No. 2 on the Rena E. Karr farm, Section 11. In Lebanon Township, Ohio Fuel Gas Co.'s No. 1 John H. Busch farm, Section 36, is a gas well at 2,044 feet; O. D. Jones is drilling No. 1 J. A. Smith farm, Section 19; Joe Rubin & Co. is drilling No. 5 Elias Jividen farm, Section 36, and A. N. Bengel is drilling No. 1 J. A. and Lilly Smith farm, Section 20. Houston & Co. has a rig for No. 2 on the Charles G. Circle farm, Section 36, and is drilling No. 6 on the Elias Jividen farm, same section.

In Perry County, Wehrle Brothers' No. 1 Ray Helser farm, Section 36, Thorn Township, is dry at 2,770 feet. Mid-East Gas Co. is drilling No. 1 James A. Hull farm, Section 18, Clayton Township. Kachelmacher Oil Co. is drilling No. 9 on the Hemlock Coal Co.'s property, Section 25, Coal Township.

In Fairfield County, City Natural Gas Works' No. 2 on the Webster Deeds farm, Section 34, Berne Township, is a gas well. Same company is drilling No. 4 Charles Fauble farm, Section 2, same township, No. 1 on the Daniel Steiger farm, Section 1, Greenfield Township, and has a rig for No. 3 F. A. Ruff farm, Section 31, Rush Creek Township.

In Knox County, Ohio Fuel Gas Co. has a rig for No. 1 Selora Phillips farm, Section 11-12, Butler Township, and Upham Gas Co. has a rig for No. 1 Howard and James Fry farm, Section 21, same township.

In Guernsey County, Jewell & Hammond's No. 1 J. W. and Isaac L. Warehime farm, Lot 4, Richland Township, is a gas well at 1,326 feet. Ferguson & McCullough is drilling No. 1 Homer B. Winnett farm, Lot 30. Frank Lyons and others are drilling No. 1, Kuinglius Rich farm, Lot 14, same township. In Westland Township, W. Salladay & Co. are drilling No. 7 Paul Micha farm, Lot 7.

In Coshocton County, C. O. Moore is drilling No. 2 J. LeRetilly farm, in Jefferson Township.

In Perry County, Caywood-Mid East Gas Co. has a rig for No. 2 on the Homer Caywood farm, Section 11, Reading Township, and City Natural Gas Works has a rig on the L. V. Kullman farm, Section 16, same township.

In Athens County, Thomas Clark's No. 2 Ray D. Radford farm, Lot 25, Athens Township, is drilling. Ohio Fuel Gas Co. is starting No. 15 on the Black Diamond Coal Co.'s property, Tract 16.

KENTUCKY

In Hancock County, Kentucky, Snowden-McSweeney Co.'s No. 12 on the H. J. O'Dell farm, produced 75 bbls. initial, and its No. 13 J. W. Peckenpaugh farm was dry in the Jet sand. Sands Petroleum Co.'s No. 6 C. H. Smith farm produced 50 bbls., and James C. Ellis' No. 1 on the Rosco Huff was a gas well.

In Ohio County, Cumerbland Petroleum Co.'s No. 15 Sidney Lancaster farm, in the Oak Pool, produced 10 bbls., initial, and its No. 6 Guy Richards farm, same pool, produced 15 bbls. J. C. Miller & Co. drilled in No. 3 Wavey Sanders farm, same pool, which produced 10 bbls. Mark & Bell's No. 3 C. W. Murphy farm, is a commercial gas producer.

In Daviess County, Madden Oil Co.'s No. 1 George Tinnell farm, near Whitesville, was dry in the Stray, Jet, Jones and Barlow sands and hit water in the Bethel formation. W. E. Hupp & Co. are drilling No. 1 W. M. Tanner farm.

INDIANA

In Daviess County, Midwest Development Corp.'s No. 1 on the Mary and Earl Robinson farm, SW NW Section 31, Harrison Township, has a showing of gas at 842 feet. Hanson and others' No. 2 on the Oliver M. Smith farm, NW SE Section 4, is starting.

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Increased Activity in Proven and Wildcat Areas in the North Louisiana and Arkansas Fields

By J. R. CRUMPTON
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Apr. 15.—With ideal weather conditions prevailing throughout this division during the past week, the number of active rigs showed a decided increase both in the proven districts and wildcat areas. A deep test in the Rainbow Field, Union County, Arkansas, failed to develop the anticipated show of oil and gas, but the well is by no means condemned and will be tested further at the present depth before coring deeper. Two upper Trinity wells in the Rodessa gas area of northwest Caddo Parish have all the earmarks of being good producers and extending production. A number of wildcats scattered over a wide area in three states which have just spudded in or have been shut down for a period show activity and will be closely watched.

ARKANSAS

The eyes of the oil fraternity in the Arkansas and North Louisiana districts continue to be focused on H. L. Hunt, Inc.'s No. 15 E. F. Gregory in Section 10-17-14, Rainbow Field, Union County. The test cored soft lime with a show of oil from 6,494-97 feet and cored another good show from hard black sandy lime from 6,512-17 feet. A core from 6,517-45 feet was missed and 2½-inch tubing was run to test. At this writing the well is swabbing salt water with a show of both oil and gas, with the bottom of the hole at 6,545 feet. As a string of 7-inch casing was set two weeks ago at 5,834 feet, the test has over 700 feet of open hole, part of which is lower red beds, the base of which was logged at 5,937 feet. It is stated that a drill stem test will be made of the last 100 feet, and if this fails to develop the desired result, the well will be deepened to 7,000 feet. This is the second deepest well yet drilled in Arkansas, Lion Oil Refining Co.'s No. 9-A Hayes, Section 4-16-15, in the Smackover Field, having been abandoned in rock salt with stuck drill stem at 7,255 feet.

Smackover

In the Smackover area, Gulf Refining Co.'s No. 49 Louis Werner, Section 5-16-16, another deep test, is drilling in hard sand at 4,379 feet. Two wells drilled in the past week and tested in red beds in the Rainbow Field had practically barren results, showing a preponderance of salt water over the oil show. Alice-Sidney Oil Co.'s No. 2-B E. F. Gregory, Section 10-17-14, is swabbing 100 bbls. of fluid, 85 per cent salt water, from 3,386 feet; and in the same section, J. E. Crosbie, Inc.'s No. 1 H. D. Warren is flowing 1,200 bbls. of fluid, 90 per cent salt water, from 3,342 feet. Joe Modisette's No. 1 Gibson, Section 6-18-13, Urbana area, is temporarily shut down at 4,016 feet. Earl Patterson's No. 1 C. L. Smith, Section 29-17-14, has cemented back to 2,544 feet and arranging to whipstock eight joints of drill stem and bit from the old total depth of 2,707 feet.

Lafayette County

Transportation Petroleum Co.'s No. 1 Red River Lumber Co., Section 26-19-25, a proposed deep test in Lafayette County, is arranging to resume drilling after being shut down for two weeks curing titles on the block. The well was shut down directly after running Schlumberger electrical coring instruments. Reports are that the Schlumberger survey of the well showed good porosity and resistivity from 1,885 to 1,974 feet, and from 2,082 to 2,120 feet previous drill stem tests had developed oil and gas shows. Resistivity on the Schlumberger tests is reported to run from 8 to 20 ohms, indicating commercial possibilities of the Nacatoch, which was contacted at 1,830 feet. The Blossom formation was cored from 2,470 to 3,018 feet, but only shale and some poorly developed sand was cut, and apparently this formation has thinned out in that area. At present the test is bottomed in Tokio at 3,061 feet. Another wildcat in Lafayette County, Riggs Brothers' No. 1 J. W. Dubose, Section 35-15-24, is drilling at 1,910 feet. In Ashley County Glen E. McFaddin's No. 1 Bovine Farms, Section 1-18-8, cored Nacatoch sand from 2,760-73 feet, but there is no report at this writing on what it carried.

The Arkansas district reported two completions, both failures, and two new locations. Grand Prairie Realty Co.'s No. 1 Fischer, Section 6-6s-4w, Arkansas County, was dry and abandoned at 3,935 feet. The new producing horizon in the Rainbow Field, Union County, received another setback with the abandonment of T. L. James & Co.'s No. 2-A E. F. Gregory, Section 10-17-14, at 3,462 feet. In Columbia County O. F. Whittaker has derrick pattern on location for his No. 1 Hall in Section 11-15-20, and F. W. Martin is rigging up on his No. 2 Lafferty in Section 17-14-24, Hempstead County.

NORTH LOUISIANA

Although not officially completed, two Trinity gas wells seem assured, one about one-half mile northeast of previous production and the other about the same distance northwest. The former, Arkansas-Louisiana Gas Co.'s No. 2 Rodessa Oil & Development Co., Section 23-23-16, cored gas sand from 5,608-18 feet and from 5,847-66 feet and is testing at 5,869 feet. United Gas Public Service Co.'s No. 1 Fosque Unit, Section 28-23-16, is coring at 5,893 feet. On the eastern flank of the Sligo Field, Bossier Parish, Arkansas-Louisiana Gas Co.'s No. 2 R. O. Roy, Section 18-17-11, developed salt water on drill stem test at 2,683 feet, but showed an estimated 4,000,000 feet of gas at 2,720-33 feet. Seven-inch casing has been set at 2,695 feet with the hole bottomed at 2,748 feet. Two new locations were staked in the Sligo area, and in the northern part of the parish, two recently staked wildcats, one about 2 miles south of Plain Dealing and another on a large block east of that town are ready to spud in. Five other new operations were announced in this district. In Catahoula Parish, George P. Phillipi has spudded in on his No. 1-A Louisiana Central Lumber Co. in Section 2-9-6e. The test is a short distance south of one recently abandoned with a good gas show and large amounts of salt water from the 900-foot level. A new Natchitoches Parish test is B. E. Taylor's No. 1 DeBlieux, Section 83-10-7.

Completions

This district turned in four gas wells and three dry holes. The shallow Blanchard Field, Caddo Parish, reported two small gassers, Louana Oil & Gas Co.'s No. 1 N. Moore, Section 8-18-16, is estimated at 1,000,000 feet from 936 feet and extended production about 1 mile southwest. M. Segall's No. 5 Sharpe, Section 11-18-16, is a 3,000,000-foot gasser from 954 feet. In the old Spider area, DeSoto Parish, Century Oil & Drilling Co.'s No. 1 J. M. Morton, Section 27-11-14, had an estimated flow of 5,000,000 feet of gas with a spray of salt water from 2,825 feet. Carbons Consolidated's No. 1 C. C. Norman, Section 11-21-3e, Union Parish area of the Monroe Field, gauged 2,000,000 feet with 1,020 pounds rock pressure from 2,200 feet. The dry holes were as follows: DeSoto Parish, Hester and others' No. 1-A T. R. Alston, Section 11-11-16, salt water and abandoned at 2,610 feet; Rapides Parish, C. D. Loe's No. 1 Baird estate, Section 40-5n-1w, junked and abandoned at 4,486 feet after fishing for 4,000 feet of drill stem for several weeks; Natchitoches Parish, Roy A. Raines and others' No. 1 Raines estate, Section 28-9-10, another junked hole at 3,540 feet.

MISSISSIPPI

One new location in the Rankin County area of the Jackson Field was the only new operation for this district during the past two weeks, and not one completion was reported. A recently staked wildcat in Clarke County, L. Beckwith and others' No. 1 Long Bell Lumber Co., Section 10-2n-16e, is rigging up. Snow Black Petroleum Co.'s No. 1 Fox, Section 30-7n-12w, Jones County, has drill stem stuck at 4,050 feet. In Lauderdale County, Bob Dalton's No. 1 Bounds, Section 34-7n-15e, is drilling at 1,525 feet. P. J. McAlpine's No. 1 Crook, Section 4-13s-18w, in the Amory gas area of Monroe County, is drilling in hard lime at 2,275 feet. A Hinds County well in the Jackson gas area has set 6-inch casing on top of the chalk to make up the remainder of active wells in the Mississippi district.

Daily Production

Estimated daily gross production all companies week ending April 12, 1935:

	Bbls.
NORTH LOUISIANA	
Bellevue	700
Caddo light	4,915
Caddo heavy	2,110
Converse	975
Cotton Valley	445
DeSoto and Red River	1,405
Elm Grove	470
Haynesville	3,540
Holly	155
Homer	2,690
Pleasant Hill	190
Sarepta-Carterville	530
Urania	3,060
Zwolle	1,770
Total	22,960
SOUTH ARKANSAS	
Champagnolle	2,600
El Dorado	2,200
Lisbon	335
Miller County	1,495
Nevada	955
Smackover light	2,295
Smackover heavy	17,985
Stephens	690
Urbana	2,020
Total	30,575

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Bell Oil Co.'s No. 2 Thompson-Koltz, 450 ft. S, 350 ft. E, NW cor. Sec. 11-2n-5e. Drlg. 3,756 ft.

Southern Star Pet. Co.'s No. 1 O. G. Boyette, Sec. 28-3-5e. Coring 2,570 ft.

BIENVILLE PARISH

Saline Drlg. Co.'s No. 1 Pardee, Sec. 27-14-6. S.D. 3,365 ft.

BOSSIER PARISH

Ark.-La. Gas Co.'s No. 2 R. O. Roy, 667 ft. S, 678 ft. E, NW cor. Sec. 18-17-11. Set 7-in. 2,695 ft.; T.D. 2,748 ft.

W. A. Kirkland's No. 1 Jarrett & McKeller, 330 ft. N and W, S cor. NW NW Sec. 3-21-13. S.D. 1,500 ft.

Leonard Co.'s No. 1 Pearson, 250 ft. S and E, of C Sec. 32-21-14. D.S. stuck 2,435 ft.

Plain Dealing Synd.'s No. 1-A Bollinger, Sec. 31-23-12, 330 ft. N and E SW cor. SE NW. Rigging up.

Richplane Oil Co.'s No. 1-A S. H. Bolinger, Sec. 22-22-13. Rigging up.

Scott & Howard's No. 1 Sherrill, Sec. 13-19-12. Partly rigged up and S.D.

R. L. Skidmore et al's No. 1 Davis, Sec. 12-18-13. S.D. 1,150 ft.

CADDO PARISH

Alaska Oil Corp.'s No. 1 Dickerson, 150 ft. N and E, SW cor. NW NW. S.D. 1,500 ft.

Ark.-La. Gas Co.'s No. 2 Rodessa O & Devel Co., Sec. 23-23-16. Testing 5,869 ft.

Nick Babare's No. 1 Gibbs, Sec. 16-20-15. Rigging up.

J. Ed Bailey, tr.'s No. 1 Hartso, NW cor. NE NW Sec. 28-22-16. S.D. 1,236 ft.

W. T. Bell et al's No. 1 Bostick, 1,820 ft. E, 460 ft. N, SW cor. Sec. 12-22-16. Bailing 2,785 ft.

Cal.-La. Devel. Co.'s No. 1 Glassell, NW NE Sec. 11-19-15. Set 10-in. 40 ft.

Gulf Ref. Co.'s No. 4 Caddo Levee Board, 773 ft. S, 300 ft. E. C Sec. 10-20-16. Set 10-in. 98 ft.; drlg. 1,598 ft.

Hillman et al's No. 1 J. S. Noel Est., NE NE Sec. 12-20-16. Set 10-in. 21 ft.

A. D. King, tr.'s No. 1 Roach, 641 ft. E, 375 ft. N, SW cor. SE Sec. 4-14-16. S.D. 2,128 ft.

Murray Oil Co.'s No. 1 J. S. Noel, 298 ft. S, 260 ft. E, NW cor. SW Sec. 15-20-15. S.D. 500 ft.

Press & Lambert's No. 1 Hughes, Sec. 15-20-15. W.O.S.R. 2,301 ft.

Press & Lamberts' No. 1 Robertson, 300 ft. N and E, SW cor. SE Sec. 15-20-15. W.O.S.R. 2,202 ft.

Recovery Oil Co.'s No. 1 W. L. Sibley, Sec. 15-19-14. Fishing for D.S. 2,050 ft.

A. C. Scott et al's No. 1 Noel Est., 330 ft. S and E, NW cor. Sec. 22-20-15. Tested dry 2,241 ft.; arranging to deepen.

Shreveport Oil Corp.'s No. 5-B Muslow, 150 ft. S, 1,320 ft. E, NW cor. Sec. 9-20-1a. Set 10-in. 100 ft.; drlg. 2,100 ft.

G. R. Stevens' No. 2 Hart, Sec. 22-21-16. S.W. and abd. 1,023 ft.

Texas Co.'s No. 3 School fee, Sec. 16-20-15. Drlg. 2,228 ft.

Texas Co.'s No. 4 School fee, Sec. 16-20-15. Set 6-in. 2,159 ft.

Texas Co.'s No. 2 Thigpen, 300 ft. S and E, C Sec. 15-20-1a. Set 6-in. 2,182 ft.

C. A. Tooke's No. 1 fee, 104 ft. S and W, NE cor. SE Sec. 16-20-15. W.O.S.R. 2,206 ft.

Tooke & Reynolds' No. 3 Levy, 300 ft. S and E, NW cor. SE NE Sec. 16-20-15. W.O.S.R. 2,182 ft.

CLAIBORNE PARISH

J. C. King's No. 1 Odes Webb, 330 ft. S and E, NW cor. NW NE Sec. 21-21-8. S.D. 1,895 ft.

E. T. Oakes' No. 1 R. W. Patton Est., 660 ft. S and W, NE cor. Sec. 1-20-5w. Rigging up.

DESOTO PARISH

E. B. Bird et al's No. 1 A. D. Johns, 330 ft. N and W, center Sec. 20-14-6. Drlg. 2,210 ft.

Century O. & Drlg. Co.'s No. 1 Morton, 300 ft. N and E SW cor SE NE Sec. 27-11-14. Comp.; est. 5,000,000 ft. of gas, 2,825 ft.

G. O. Collins' No. 1 J. H. Riggs, 450 ft. S and W, NE cor. SW Sec. 21-14-13. Set 10-in. 40 ft.

DeSoto Pet. Co.'s No. 1 B. Y. Wemple, C S½ SE NE SW Sec. 14-12-11. Arranging to set csg. 2,590 ft.

D. J. Flesh et al's No. 1 Farmer, 660 ft. S, 610 ft. E, NW cor. SE NE Sec. 14-12-13. Rigging up.

E. L. Foster's No. 1 Youngblood, Sec. 9-11-14. S.D. 2,691 ft.

P. G. Fraley et al's No. 1 G. R. Stell, 330 ft. S and W, NE cor. Sec. 5-12-16. Rigging up.

Hester et al's No. 1-A T. R. Alston, 360 ft. S, 330 ft. W, C Sec. 11-11-16. S.W. and abd. 2,610 ft.

Leslie Prod. Co.'s No. 1 Ramsey, 150 ft. N and W of C Sec. 36-11-11. Set 10-in. 45 ft.

(Continued on Page 84)

Weather Retards Operations in Eastern Fields; Best Gasser in Roane County, West Virginia

By STAFF CORRESPONDENT

PITTSBURGH, Pa., April 15.—In the lower eastern fields completions consisted of eight gas wells, one small producer, and three dry holes. There were a few new locations for tests in lower West Virginia but spring drilling is still retarded by road conditions.

In Southeast Ohio, only two operations were reported. In Hocking County, SE Section 18, Ward Township, Ohio Fuel Gas Co. completed No. 5,959 on the Sunday Creek Coal Co. in the Clinton sand at a depth of 3,525 feet. It is a gas well with about 400,000 feet a day.

In Jefferson County, C. S. Kelly and others drilled No. 9 on the Ella E. Baxter farm, NE Section 29, Saline Township, through the Berea sand at 850 feet. It was dry.

SOUTHWEST PENNSYLVANIA

There was one completion and one dry hole in Southwest Pennsylvania. In Greene County, Burns and others completed drilling deeper No. 2 on the William Crow farm in Richhill Township to 1,966 feet. The top of the Big Injun sand was at 1,841 feet with gas showing at 1,866 feet. The volume is small, 15,000 feet a day, and it was a former gas well at 1,632 feet.

In Cecil Township, Washington County, William Smith and others drilled a test on the Mrs. M. Winters farm through the Fourth sand to 2,700 feet. It was dry in all sands.

In West Bethlehem Township, Washington County, Furman Nuss & Co. struck top of the Thirty-Foot sand on the Margaret Keys farm at 2,876 feet. There was a showing of 100,000 feet a day in that formation. The present depth is 3,015 feet.

In Amwell Township, Washington County, Union Gasoline & Oil Corp. is down 2,400 feet on the J. C. McCoy farm. In North Strabane Township, same county, Carnegie Natural Gas Co. is grading a road to a location on the R. M. Carrons farm.

In East Findley Township, Washington County, Natural Gas Co. of West Virginia has started drilling on the T. C. Noble farm near East Findley. It is still testing the gas in the Injun sand on the P. I. Ealy farm and expecting to drill it deeper.

In South Franklin Township the test of the Duquesne Gas Co. on the S. A. Dague farm is drilling at 940 feet. The Pittsburgh Coal was at 634 feet. In Morris Township, Washington County, the Carnegie Natural Gas Co. is moving in to drill deeper No. 1 on the S. L. Harvey farm.

In Greene County, Carnegie Natural Gas Co. is drilling No. 521 on the Harvey Lemley farm deeper and has reached 2,125 feet. The Pittsburgh Coal is at 680 feet. In Springhill Township, No. 686 on the George Isiminger farm is being drilled deeper and is down 3,525 feet. In Wayne Township, Peoples Natural Gas Co. is plugging No. 1,871 on the John C. Husk farm. The depth was 3,544 feet.

In Fayette County, the test of William Snee and others on the Summitt Hotel property in South Union Township has reached 750 feet. In Allegheny County, Butler County National Bank & Trust Co. has a new rig on the H. E. Clark farm in North Fayette Township.

WEST VIRGINIA

Only one well was completed as a producer in West Virginia. On Dutchman Run in Murphy district, Ritchie County, Pittsburgh Oil & Gas Co. completed No. 14 on the Alvin Wince farm at a total depth of 1,975 feet. The Big Injun sand was dry but the Maxon sand is yielding about 3 bbls. a day at 1,724 feet.

Oriskany Tests

In Elk district, Kanawha County, the Clyde Oil & Gas Co.'s test on the F. W. Shinn farm has resumed drilling and is at 4,455 feet. The Onondaga should be reached during the week. Benedum & Trees are down 3,590 feet on the Mary C. Wingfield farm. Godfrey L. Cabot, Inc., is rigging up on the Edgewood Realty Co. lease, and has made a location on the Kanawha Land Co. tract.

In Jefferson district, Benedum & Trees are still fishing the tools on the Joseph Hill farm at 1,427 feet. In Malden district, Godfrey L. Cabot, Inc., has part of the material on the Plus R. Levi farm. In Cabin Creek district, this operator's deep test on the A. D. Huntington lease has reached 5,220 feet without any report of production or sand.

Gas Wells

The best gas well for the week was in Roane County where Big Four Drilling Co. completed a test on the Frank Wallbrown farm in Smithfield district in the Injun sand at 1,758 feet. It is showing for over 2,000,000 feet a day, natural.

In Cabell County, Fairfax Gas Co. completed a second test on the Leonard Paugh farm in McComas district in the Injun sand at a depth of 1,638 feet. It has about 990,000 feet a day.

In Calhoun County, C. B. Lewis and others completed a test on the Michael J. Kight farm in Sherman district in the Injun sand at 2,110 feet. It gauges about 500,000 feet a day.

In Gilmer County, Steer Creek Oil & Gas Co. completed No. 8 on the C. D. Mollahan farm in Center district in the Injun sand at a total depth of 1,702 feet. The Injun sand was dry but there is about 149,000 feet of gas a day from the Maxon sand, natural.

In Lincoln County, Leonard V. Hobbs, trustee, drilled the test on the Barrett Adkins farm in Jefferson district to the Berea sand, total depth 2,145 feet. There is about 74,000 feet a day in the Berea sand and about 216,000 feet a day from the Big Lime.

In Ritchie County, Clem S. Morris completed a test on the H. B. Ayers farm on Leatherbark Creek in Murphy district as a light gas well in the Injun sand at a total depth of 1,948 feet. On Whiskey Run in Clay district, Claude Cottrill and others drilled a test on the Emma Wince farm through the Berea sand to 1,950 feet and it was dry.

Drilling in West Virginia

In Boone County, Pond Fork Oil & Gas Co. is rigging up No. 20 on the Cole and Crane lease in Washington district. Here, Boone County Coal Co. is down 760 feet in a second test on its own property. In Scott district, Owens Bottle Co. is drilling the second test on he S. M. Wheeler heirs farm at 1,200 feet. This company has abandoned No. 2 on the C. A. Croft farm, same district. In Sherman district, Pure Oil Co. has part of the material for No. 73 on the Federal Coal Co. tract. Owens Illinois Glass Co. is down 2,757 feet in No. 23 on the Peytonia Coal Land Co. lease.

In Cabell district there were no new locations. R. H. Adkins and others have started drilling the second test on the H. S. Fraley farm in McComas district. Boyles and Gainer are drilling at 1,560 feet on the Edward Owens farm.

In Calhoun County, H. S. Adams and others are building a rig on the Ivy Gainer farm in Center district. In Sherman district, Dudley Lutz and others are drilling on top of the sand on the Elias Yoak farm. Boyce Fowler and others have reached 1,800 feet on the Lowman Fowler farm. Starcher & Richards have locations on the Albert Kight farms of 26 acres and 52 acres.

In Clay County, United Fuel Gas Co. is drilling on the Samuel Samples farm in Union district and has reached 1,600 feet. In Pleasant district, the second test on the Peabody Coal Co. tract drilled by F. F. McIntosh is at 1,625 feet.

In Kanawha County, Owens Illinois Glass Co. is rigging up No. 10 on the C. Q. Crockett farm in Malden district. In Cabin Creek district No. 18 of the Ten Mile Oil & Gas Co. on the H. C. Dickinson farm reached 2,350 feet and shut down testing.

In Lincoln County the Kanawha Gas & Utilities Co. has made a location on the R. R. Sloan farm in Sheridan district. In this district W. C. Kingery and others are down 1,350 feet on the Millard Pratt heirs farm.

Logan County

In Logan County, West Virginia Gas Co. is fishing for tools in No. 38 on the Dingess Run Coal Co. lease in Logan district and at a depth of 2,200 feet. In Chapmansville district Cumberland Petroleum Co. is down 730 feet in No. 10 on the Merrill Coal Co. lease.

In Marshall County, Samuel Morrison and others have started drilling on the Ambrose Ferris farm in Clay district. In Pleasants County, on Schultz Fork in Jefferson district, Dye Farm Oil Co. has started drilling No. 3 on the Lavina Dye heirs farm. In McKim district, Howard Hall and others are drilling at 300 feet on the Thomas Fleming farm.

In Raleigh County, Godfrey L. Cabot, Inc., is shut down at 3,211 feet in No. 7 on the Beaver Coal Co. tract in Slab Fork district and is treating with acid and testing the gas from that formation. No. 6 is drilling on the same lease and has reached 2,493 feet.

In Ritchie County, Edward Deem is drilling deeper No. 2 on the W. Clark farm in Grant district and has reached 1,950 feet. Joseph Elder is drilling at 2,000 feet on the Isaac M. Jackson farm. In Murphy district, William Morris and others are drilling through the Injun sand on the Nellie Snyder farm with the tools at 2,090 feet. W. R. Hays is down 1,975 feet in No. 4 on the Levi Wilson farm. Shannon Dawson is skidding the rig to a new location on the E. C. Dawson farm. Patton and Wilson Farm Oil Co. is down 1,100 feet in No. 7 on the Patton & Wilson farm. In Clay district, Smith & Hendershot are drilling past the 1,000-foot mark in No. 4 on the Charles Wilcox, Sr., farm.

In Tyler County, Smith & Kerns have made a location on the James P. Ripley farm in Centerville district. In Meade district, Smith & Kerns are drilling at 1,750 feet on the I. T. Hill farm.

In Wirt County, L. B. Carroll and others have a rig for a second test on the D. P. Ferree farm in Burning Springs district. In Wood County, John Leeton and Herbert Flanigan have started drilling on the E. G. Morehead farm about 800 feet south of the test on the Sarah Lemley farm in Walker district.

In Roane County, Howard Jarvis and others are drilling a second test on the J. S. Rogers farm in Geary district and are down 1,280 feet. In Curtis district, Kenny M. Hunt has a location for a second test on the Lizzie Moore heirs farm. Henderson Oil Co. is down 1,775

(Continued on Page 81)

Trading in Crude Oils and Gasoline Futures on the Commodity Exchange

NEW YORK, Apr. 15.—Following is a summary of trading in crude oil and gasoline futures on the Commodity Exchange for the week ending April 13:

Gasoline Futures

Gasoline futures on Commodity Exchange, Inc., were unchanged to 7 points lower in the nearby positions, while the further forward positions were 5 to 7 points higher, for the week. The market continued fairly active, with sales totaling 1,848,000 gallons and featured all deliveries from June to December, inclusive, with the exception of the August and November deliveries. The highest price paid was 6.27 cents for the December delivery and the lowest price was 5.80 cents for the June delivery (federal tax included). Throughout the week the trend of prices was mixed, with a firm trend prevailing during Monday's and Tuesday's trading. On Wednesday, prices turned reactionary, closing 4 to 13 points below Tuesday's final levels. This decline was, however, offset by advances of 7 to 12 points on Thursday and advances of 2 to 14 points on Friday. Today's closing prices were 2 to 10 points lower.

Crude Oil Futures

Crude oil futures on Commodity Exchange, Inc., declined slightly during the week with today's quotations being 1 to 1½ points below levels of a week ago. Although the market was inactive, prices held steady throughout the latter part of the week.

GASOLINE

	Close	High for week	Low for week	Sales (gallons)
June	5.85B	5.97	5.80	378,000
July	5.94B	6.09	5.90	420,000
Aug.	6.02N	....	....	.....
Sept.	6.10B	6.14	6.10	336,000
Oct.	6.14N	6.14	6.14	168,000
Nov.	6.17N	....	....	.....
Dec.	6.20B	6.27	6.22	546,000
Jan.	6.22N	....	....	.....
Feb.	6 24N	....	....	.....
Mar.	6.26N	....	....	.....
Total				1,848,000

The above prices for future delivery of gasoline are ex-licensed tanks in delivery areas and include 1 cent per gallon federal tax.

CRUDE OIL

	Close	High for week	Low for week	Sales (barrels)
June	1.20 B	....	....	.....
July	1.20¼B	....	....	.....
Aug.	1.20½B	....	....	.....
Sept.	1.20¾B	....	....	.....
Oct.	1 21 B	....	....	.....
Nov.	1.21¼B	....	....	.....
Dec.	1.21½B	....	....	.....
Jan.	1.21½B	....	....	.....
Feb.	1.21½B	....	....	.....
Mar.	1.21½B	....	....	.....

B—bid. N—nominal.

Kansas Reported 313 Operations During Week With 21 New Locations, All But Four in West

By JAMES McINTYRE

Kansas rounded the corner last week with a total of 313 operations in various stages of development, 3 less than for the week before. There were 21 new operations, all but 4 being in western provinces of the state, compared to 19 the week before. Of the total oil wells completed, 19 in all, having a combined initial production of 11,032 bbls., Reno County contributed 3 for 4,672 bbls., Rice County had 4 for 3,173 bbls., and Russell County 6 for 2,848 bbls., the remainder being scattered mostly throughout the western half of the state.

Four wells were completed as dry holes compared to three for the previous week. Russell County got a duster in one of its wildcat tests, Rush County also got one and Barton and Rice Counties each contributed one.

The average first day's production from the 19 completed oil wells this past week was 581 bbls. compared to the average initial production for the 30 wells the week before of 870 bbls.

There were a total of 74 rank wildcat tests going at the end of the week, the various stages of development being divided as follows: Locations, 10; active rigs, 9; inactive rigs, 7; active drilling wells, 38 and inactive drilling wells, 10. Of the 21 new starts, 4 were wildcats, allocated as follows: Barber County, 1; Harvey County, 2; Russell County, 1.

Reno County led with the greatest number of inside operations, the Haury-Burrton Pool being credited with 8 locations, 2 rigs, and 33 drilling wells, with other pools in the county having 1 location and 5 drilling wells to make the total for Reno County 49 operations.

Russell County was second in total number of inside operations underway, there being 7 locations, 8 rigs, and 31 drilling wells for a total of 46 in the various pools of the county.

Rice County came next with 3 locations, 5 rigs, and 35 drilling wells for a total of 43 inside operations.

Kansas

Estimated daily average production of Kansas for the week ended April 13 and for the preceding week follows:

	Barrels	
	Apr. 13	Apr. 6
Haury-Burrton	24,375	19,325
Ritz-Canton	8,975	9,725
Hollow	4,550	4,150
Voshell	4,625	4,925
Johnson	1,532	2,408
Nikkell	4,900	5,000
Sedgwick County	8,625	10,775
Ellsworth County	4,653	3,969
Barton County	2,362	2,351
Rice County	18,597	19,103
Ellis County	564	859
Kingman County	1,252	1,327
Stafford County	1,976	2,685
Russell County	11,057	12,000
Greenwood County	11,000	11,000
Butler County	18,750	18,750
Other pools	16,232	16,598
Total Kansas	144,025	144,950

Barton County

A new producing horizon for the Beaver Pool in Barton County was found in Darby Petroleum Corp.'s No. 2 Jarus, SW NW NE Section 16-16-12w, which had 3,000 feet of oil in the hole from the Gorham sand at 3,338 feet. Six-inch casing was set at 3,322 feet for a production test. This is the first production from the Gorham sand in Barton County and it offsets to the north the No. 1 Jarus, Siliceous lime discovery for the Beaver Pool which produced 596 bbls. of oil at 3,351 feet. The Gorham crude tests 41.5 degrees in specific gravity as compared to the 38.5 degrees gravity crude coming from the Siliceous lime producer.

In eastern Barton County, northeast of Ellinwood about 4 miles, another wildcat was looking favorable for production in the Kansas City lime logged at 3,040-3,046 feet. It was Harry Downing, L. E. Cross and I. W. Murfin's No. 1 Eberhart in the SE cor. of Section 14-19-11w. Getting a good showing of oil in the lime, it was shut down at 3,050 feet to run 7-inch casing to 3,040 feet for a production test.

In the Ellinwood Pool of southeastern Barton County, Stanolind Oil & Gas Co. at its No. 3 Scheufler, C NW SE Section 9-20-11w, found the Siliceous lime 3,307-3,390 feet, total depth, dry and it was abandoned.

In southeastern Barton County, Jim McMorrow and Lawrence Spencer in their No. 1 Hagen, NE cor. Section 33-20-11w, a wildcat about 5 miles south of the Ellinwood Pool, were underreaming 6-inch casing at 3,320 feet to shut off water encountered in the Kansas City lime at 3,215 feet. Top of the Kansas City lime was logged at 3,090 feet.

Two new tests were started in Barton County pools during the week. C. B. Davis and Gypsy Oil Co. had rotary rig up over location for their No. 1 Steckel, SW SE SE Section 1-20-11w, and cellar had been dug for Hilligoss and others' No. 5 Isern in the NW NE NE Section 12-20-11w.

Barber County

L. H. Wentz Oil Co. had location staked for its No. 1 Skinner in the SE NW NW NE Section 29-31-14w, a rank wildcat location in western Barber County about 18 miles west of Medicine Lodge.

Stafford County

Development the past week in Kansas failed to develop anything sensational but, as has been the case for the past several weeks, new pools continued to be added to the long list of producing areas in the western part of the State. The past week a new pool was opened in southern Stafford County about 4 miles southeast of St. John when, in the first three hours of a 24-hour potential test, H. V. Elwell and Lario Oil & Gas Co.'s No. 1 Tudormorgan, a wildcat in the SE NW of Section 23-24-13w pumped 120 bbls. of oil from the Kansas City lime drilled from 3,508 to 3,597 feet, total depth. The oil tests 33 gravity.

Rush County Failure

Lario Oil & Gas Co. and Phillips Petroleum Co. in their central Rush County wildcat, No. 1 Benbow, NW NE NE Section 12-17-19w, logged Kansas City lime at 3,418 feet, encountering water at 3,460-70 feet and 3,780-83 feet, and it was dry and abandoned at 3,818 feet, total depth, 18 feet in the Granite.

Russell County

W. R. Jones, Max Kirk and Earl Wakefield were apparently opening another Oswald lime pool for Russell County in their No. 1 Milberger, NE NW NW Section 7-14-14w, a wildcat venture midway between the Dillner and Neidenthal Pools. Oswald lime logged from 3,065 to 3,145 feet, total depth, had put 1,000 feet of oil and 300 feet of water in the hole and operators were underreaming 6-inch casing before making a production test.

Operations in Russell County the past week saw six wells brought in on production for a combined initial 24-hour gauge of 2,848 bbls., one wildcat dry hole and six new operations begun, two of which were old wells to be deepened.

In the Sellens Pool of southern Russell County, Sinclair Prairie Oil & Gas Co. and Slick-Urschel Oil Co.'s No. 1 Sellens, NE cor. Section 35-15-13w, was completed in a stray lime above the Oswald, or Kansas City lime, found at 2,950-65 feet, total depth, for a potential of 295 bbls. of oil and 30 bbls. of water. This is the first production in the pool coming from this horizon, there being only one other well having a good showing of free oil in this stray lime.

In the Gorham sector of Russell County, Aylward and others' No. 2 Mills, NE SW NE Section 4-14-15w, had Oswald lime at 3,030 feet, pay from 3,050-68 feet, total depth, and upon being acid treated potentialed 685 bbls. of oil in 24 hours for its completed gauge.

Stanolind Oil & Gas Co. had completed No. 6 Mermis, NW NE Section 5-14-15w, Gorham Pool in Russell County, for 72 bbls. of oil and 23 bbls. of water in the Oswald lime 3,031-3,146 feet, total depth. It had been plugged back from 3,146 feet to 3,129 feet and acidized with 1,000 gallons.

In the same pool, Bridgeport Machine Co. had completed its No. 15-A Baxter, SW SE SE Section 32-13-15w, in Oswald lime at 3,048-3,110 feet, total depth, for 72 bbls. of oil a day. It had been acidized.

The Buffalo Oil Co. at its No. 2 Schaffer-Anchutz, NE NW SW Section 27-13-14w, Russell Pool, in Russell County, found Siliceous lime 3,272-96 feet, total depth, good for 920 bbls. of oil in 24 hours on its completed gauge.

Siliceous lime logged at 3,277 to 3,301 feet, total depth, was acidized with 1,000 gallons in Tom Palmer's No. 5 Killian, SE SW NW Section 27-13-14w, Russell Pool, and it was completed for 804 bbls. of oil on the pump.

About 7 miles northeast of the Russell Pool in Russell County a hole full of water was found in the Siliceous lime 3,213-20 feet, total depth, and Murphin and others' No. 1 Funk, a wildcat test in the SW cor. Section 19-12-13w, was abandoned.

New operations in Russell County the past week were: Liggett Drilling Co.'s No. 1 Chrisler, an old well in the SW NW SW Section 9-11-15w, being rigged up to deepen at 3,105 feet; Aylward Drilling Co.'s No. 1 Polecyn, SE cor. Section 31-13-15w, rig; Tom Palmer's No. 2 Woelk, C W half W half NW Section 22-13-14w, location; Buffalo Oil Co.'s No. 5 Schaffer-Anchutz, SW cor. Section 27-13-14w, cellar; C. Carey and others' No. 1 Whitman, an old well in the NW NE SW Section 27-13-14w being rigged up to deepen at 3,285 feet; Wakefield and Armer's No. 1 Hall, wildcat location in the NE SE SW Section 36-14-15w, building rig.

Rice County

Operations in Rice County the past week resulted in one new location, one dry hole and four oil wells having a combined initial 24 hours production of 3,173 bbls.

Gypsy Oil Co.'s No. 1 Keesling, Siliceous lime discovery of recent date, in the NW SW Section 10-20-9w, southeast of Chase townsite in Rice County, pumped 238 bbls. of oil in 24 hours from the Siliceous lime at 3,263 feet, total depth, after it had been acidized the second time. It is reported that this test will be deepened a few more feet.

In northwestern Rice County in the Orth Pool, Hinkle and others had completed their No. 1 Mehl, NE SW Section 27-18-10w, for 172 bbls. of oil in 24 hours on the pump, production coming from Conglomerate topped at 3,152 feet and pay from 3,182-92 feet, total depth.

In the Ploog area of Rice County, Shell Petroleum Corp. and associates had officially abandoned their No. 1 C. T. Grizzell at 3,318 feet, total depth, in Siliceous lime topped at 3,267½ feet which filled the hole 1,050 feet with water in 20 minutes.

Marathon Oil Co.'s No. 1 Grove, SE NE NW Section 29-19-9w, Grove Pool in Rice County, found Siliceous lime 3,230-

(Continued on Page 73)

Wildcat Operations in Kansas

Week Ending April 13

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Sam Jarvis et al's No. 1 Morrisse, C SE NE Sec. 23-30-10w.
Rig.

Southern Drlg. Co. et al's No. 1 Davis, 330 ft. from W and 330 ft. from S lines of NE Sec 13-34-15w.
3 D 2,865 ft.

L. H. Wentz' No. 1 Skinner, SE NW NW NE Sec. 29-31-14w.
Location.

BARTON COUNTY

D. I. Hall et al's No. 1 Arnold, SE SE SW Sec. 19-18-15w.
Moving in tools.

ario O. & G. Co. et al's No. 1 Nuss, NW 'W SW Sec. 11-16-14w.
Drlg. 610 ft.

Lario O. & G. Co. et al's No. 1 Nuss, NW SW SW Sec. 11-16-14w.
Rig.

McMorrow & Spencer's No. 1 Hagen, NE cor. Sec. 33-20-11w.
K.C. lime 3,090 ft.; wtr. 3,215-20 ft.

C. L. Price et al's No. 1 Ehrlich, NW SE Sec. 10-16-13w.
T.D. 360 ft.; fishing.

Pryor & Lockhart's No. 1 Herrington, NE NW Sec. 6-16-12w.
Rig.

Suppes & Witt's No. 1 Hayes, SW cor. Sec. 7-16-15w.
Rig.

Wolf Creek Oil Co.'s No. 1 Kraft, SW cor. Sec. 26-16-11w.
T.D. 2,810 ft.; fishing.

CLAY COUNTY

Seidel Bros.' No. 1 Younken, C S½ SE NW Sec. 21-9-4.
Mississippi 1,772-81 ft.; hole full of oil.

COWLEY COUNTY

Lloyd, Frost & Study's No. 1 Weathered, SW SE SE Sec. 28-31-3.
T.D. 1,784 ft.; C.O.

A. McCoy's No. 1 Brandenburg, SW SE SE Sec. 17-34-5.
Drlg. 2,030 ft.

ELLSWORTH COUNTY

Carter Oil Co. et al's No. 1 Teuber, 440 ft. N and W of C Sec. 26-17-9w.
Siliceous lime 3,177½-79 ft.; T.D.; pump 100 bbls. oil in 1½ hrs.

Lario O. & G. Co. et al's No. 1 Central National Bank, SE NW Sec. 33-15-8w.
Rig.

Lario O. & G. Co.'s No. 1 Wright, SW SW NE Sec. 17-16-8w.
K.C. lime 2,695 ft.; S.O. 2,701 ft.; drlg. 2,-885 ft.

Lario O. & G. Co.'s No. 1 State, SW cor. Sec. 29-15-8w.
Running 10-in. csg. 1,800 ft.

Pryor & Lockhart's No. 1 Gregory, SE SE SE Sec. 19-16-8w.
K.C. lime 2,790 ft.; show oil and H.F.W. base K.C. lime 3,124 ft.; drlg. 3,163 ft.

Western Exploration Co.'s No. 1 Wilkins, NW SW NW Sec. 9-17-9w.
Location.

HARVEY COUNTY

Cameron, Derby Oil Co. and Trees' No. 1 Brainard, SW SE NW Sec. 19-24-2.
Spudded and S.D.

Cameron, Derby & Trees' No. 1 Brainard, SW SE NW Sec. 19-24-2.
Spud and S.D.

Goering Bros.' No. 1 Brainard, NE SW Sec. 3-23-2w.
Rigging up.

Hartman & Blair et al's No. 1 Redinger, NW cor. Sec. 15-24-3w.
Cellar.

(Continued on Page 81)

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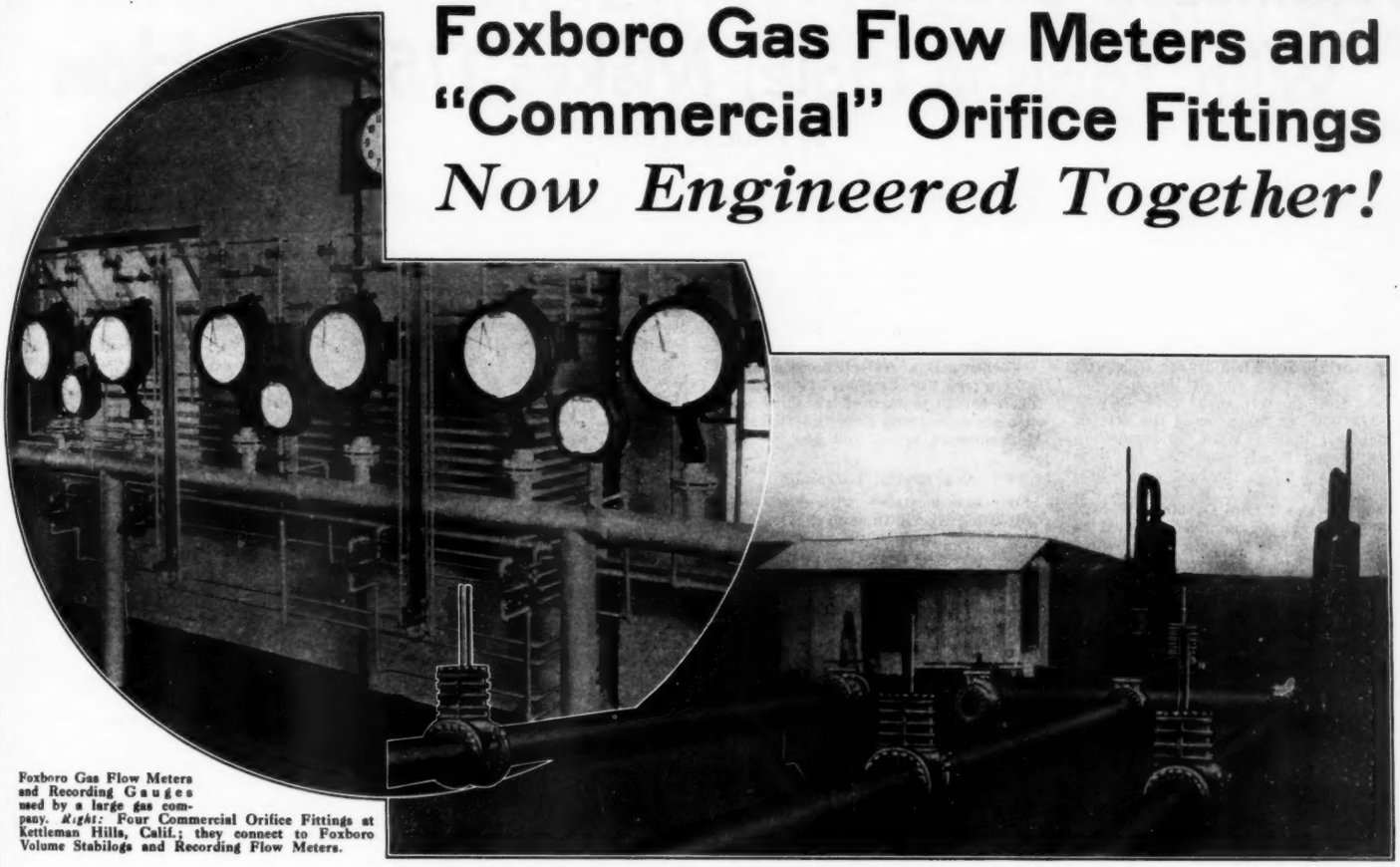

Foxboro Gas Flow Meters and Recording Gauges used by a large gas company. *Right:* Four Commercial Orifice Fittings at Kettleman Hills, Calif.; they connect to Foxboro Volume Stabilogs and Recording Flow Meters.

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••COMPLETE INSTRUMENTATION FOR THE OIL AND GAS INDUSTRY••

Montcalm County, Michigan, Discovery Well, With Tools in Hole, Makes 175 Bbls. Hour

By PAUL A. ELLIOTT
Staff Correspondent, Michigan Fields

MUSKEGON, Mich., Apr. 15.—Despite an announced proration schedule of 25 per cent of pressure production potential over a minimum exemption of 75 bbls. per well, the new Crystal Township, Montcalm County, wildcat in central Michigan averaged 3,156 bbls. a day, or 2,201 bbls. a day more than the state allowable, during the week ended Saturday, April 6. With 350 pounds back pressure and the tools and drilling line still in the hole, the well easily made as high as 175 bbls. an hour, or at the rate of 4,100 bbls. a day. With the completion of a second 9-mile pipe line by Pure Transportation Co., the first week's production of the new J. W. Leonard, Jr., and others' No. 1 Otto Durbin, NW NW NE Section 11-10n-5w, was expected to show an increase for the week ended April 13, although accurate figures were not yet available.

Acting under instructions from the Petroleum Administrative Board of Washington, the Michigan Producers Proration Committee called a special meeting of operators and others interested for preparing a development plan for the prospective new pool. The committee has called a similar meeting for Monday, April 22, to discuss a 1935 development plan for the Ogemaw County Pool, now rapidly attaining greater importance.

Despite the increase of nearly 10 per cent in state production as the result of the single Crystal wildcat, the daily average for the week ending April 6 dropped 523 bbls. The decrease from 37,712 bbls. during the week ended March 30 to 37,189 bbls. was caused by a marked drop in the totals of the Porter-Yost, Vernon-Leaton and Greendale Township Pools. Three Midland County areas of Porter, Yost and Greendale declined from 32,930 to 30,670 bbls., or 2,260 bbls. daily. A drop of 1,046 bbls. was recorded in the combined Vernon and Leaton Pools of Vernon and Denver Townships, Isabella County, which made only 2,135 bbls. compared with 3,181 bbls. Ogemaw County also declined 213 bbls. from 866 to 653 bbls. daily. Other fields showed the following totals for the two weeks: Home Township, Montcalm County, 244 to 106 bbls.; Muskegon, 255 to 252 bbls.; and Saginaw and Lapeer County Fields combined, 119 to 100 bbls. The Oceana Field of western Michigan and the Beaverton Township well, Gladwin County, remained the same at 107 and 10 bbls., respectively.

Crystal Prospects

Speaking before about 1,000 persons at Carson City, about 7 miles from the Crystal well, Dr. R. A. Smith, Michigan state geologist, expressed a belief that the record wildcat was the discovery test of a second major fold in central Michigan. He called attention to the eight pools found along the first major fold discovered when the original Mount Pleasant-Midland Pool was opened in the spring of 1928 by the Pure Oil Co. in Greendale Township, Midland County. The first pool subsequently was extended to the northwest into the adjoining Chippewa Township, Isabella County.

In 1911 Doctor Smith, then assistant state geologist, predicted the discovery of oil at Port Huron, Saginaw, Manistee, Muskegon, Howell, Allegan, Miles and Petoskey. With a series of maps and charts he showed the appearance and direction of proved and predicted structures, several of which have borne out his predictions of more than 20 years ago.

Slow development of producing oil and gas fields in Michigan has been blamed on the heavy layer of glacial drift which covers lower Michigan to a depth of from 200 to 1,300 feet, making it difficult to locate high structure. Doctor Smith declared this condition has retarded oil prospecting in Michigan for more than 50 years and still makes extended wildcatting necessary to locate production in the State.

"Michigan is a real oil state and will be for a long time to come," he predicted. "There are 20 years work ahead to prove what geologists long have believed about the occurrence of oil and gas in Michigan."

New Crystal Locations

Four new locations, with derricks already being erected in several cases, were revealed last week in the vicinity of the Crystal wildcat. J. W. Leonard, Jr., and others will drill two tests on the Clarence West estate, directly west of the discovery well. McClanahan Oil Co. is building rig for No. 1 Arthur Akin, SE SE NW Section 17-10n-4w, New Haven Township, Gratiot County, about 2 miles southeast of the Durbin; while V. M. Voorhees and others have made location in the N half NW Section 18, same township, on the Anathasia Pancak lease.

Fred W. Turner has made location on the Jerry McConkey farm in Section 10, Crystal Township, Montcalm County, near two locations previously placed under permit and started by McClanahan Oil Co. and Eastern Gulf Oil Co. on the Flint and Barger leases in Section 11, Crystal Township, and Section 2, same township, two and one locations from the discovery. Upwards of 20 more locations were reported being considered.

Pure Transportation and Simrall Pipe Line companies have completed two 4-inch pipe lines a distance of about 9 miles north to loading racks at Vestaburg and Riverdale, villages on the Pere Marquette. Other negotiations are in progress for increased facilities to handle the crude output of the Durbin and other prospective wells to be completed within two or three weeks in the new field.

New Completions

The only successful completions of past week in Michigan were two gassers, one for an open flow of about 7,000,000 feet a day in the Austin Township, Mecosta County, Field and the other for 185,000 feet before a shot in the Muskegon Field.

Taggart Brothers, Inc. and others, including Jacob Bolema and Mecosta Development Co., of Muskegon, brought in a flow of 7,000,000 feet a day in the Michigan Stray gas sands topped at 1,374 feet and drilled to 1,379 feet. The field was extended about a quarter mile by this well on the State of Michigan lease, C NE SW Section 11-14n-9w, Austin-Mecosta.

The well will be connected immediately with American-Michigan Pipe Line Co.'s 52-mile line to Muskegon. A proposal to extend service from the main line to residents of the village of Grant on the line about midway between the field and Muskegon also was announced last week.

West Michigan Consumers Co. drilled into a natural flow of 185,000 feet a day in the Monroe formation in No. 1 H. B. Smith, NE SE Section 8-10n-16w, Muskegon Township and County. After casing at 2,125 feet, gas was encountered at 2,185-97 feet after which drilling was suspended at 2,200 feet. The producing limestone will be shot with a probable increase to more than 250,000 feet a day, making the Smith one of the best Monroe gassers completed recently in the old Muskegon Field.

West Michigan Co. is planning no further drilling activity at this time as Naph-Sol Refining Co.'s new $200,000 Dubbs cracking unit is expected to provide an additional supply of 450,000 to 600,000 feet of high B.t.u. gas already contracted to the West Michigan for delivery to 25 large Muskegon industries.

Dry Holes

Four dry holes, two in Oregon Township, Lapeer County, one in Ingersoll Township, Midland County, and the other in Montcalm Township and County, were recorded last week. Fred W. Craft's No. 1 David Gerwold, NE NW NE Section 9-8n-9e, Oregon-Lapeer, was dry, plugged and abandoned at 1,428 feet after topping the Berea at 1,419 feet but striking no production. C. M. Holley's No. 1 Irving C., Grace L. and Mary Thom, SW NE NE Section 9, Oregon-Lapeer, also was dry in the Berea topped at 1,419 feet and drilled to 1,433 feet. It also has been abandoned. The Havens Oil & Gas Syndicate, of Detroit, completed both tests after they had been shut down during the winter. Elevation of the Gerwold was 774.4 feet and of the Thom, 775.8 feet above sea level.

Hopes for another Montcalm County strike were dashed when Golden Oil Co.'s No. 1 A. Steffenson, SW SW SE Section 5-10n-16w, Montcalm Township and County, 8½ miles north of Greenville, drilled into black water at 3,228 feet. It probably will be plugged and abandoned as a "duster" in the Dundee topped at 3,183 feet. A light show of oil was struck at 3,219 feet.

Howard F. Patterson has decided to abandon his No. 1 David Haskins, NW NW SW Section 26-13n-2e, Ingersoll Township, Midland County, after having drilled to a total depth of 3,725 feet and testing the Traverse, Dundee and Monroe limestone formations. The Monroe was topped at 3,500 feet and a light show encountered. The Dundee was topped at 3,395 feet.

Beaverton-Gladwin

Daily production of M. F. Whitehill's No. 1 Omer Kintner, discovery well in Section 11-17n-2w, Beaverton Township, Gladwin County, was reported increased from 10 to 75 bbls. a day by slight deepening in the Dundee.

Beaverton Oil & Gas Co.'s No. 1 Mrs. Ross, SE SW NE Section 7-17n-1w, Tobacco Township, Gladwin County, was reported to have struck the Red Rock, first indicator, 13 feet higher than the Kintner. The Kintner topped the Red Rock at 1,474 feet and the Ross at 1,432 feet, the 13 feet taking elevation into consideration.

McClanahan Oil Co. topped the Dundee at 3,017 feet in No. 1 A. G. Heath ranch, C NW SW Section 31-19n-3e, Adams Township, Arenac County. Deep River Oil Co. has started a test in Section 27, same township, on the Stokazynski lease.

A show of oil was encountered by the Black Diamond Petroleum Syndicate in No. 1 Wilbur J. and L. S. Vaughn, NW NW NE Section 28-24n-2w, Lyons Township, Roscommon County, which had reached more than 3,460 feet. Drilling has been continued.

Deep Tests

A flow of about 400,000 feet a day from the Salina after a shot at 3,943 to 3,958 feet, Section 35-3n-4e, Howell Township, Livingston County, was plugged back after drilling to the St. Peters sandstone at 5,859 feet, may result in tubing and producing the well. If no market is developed, the well will be abandoned.

J. V. Wicklund's No. 1 Carrie Neal, SE NE SE Section 13-16n-2w, Warren Township, Midland County, continued drilling at more than 4,060 feet as a deep test, in which Sun Oil Co. provided funds to continue drilling for structural information.

The hole filled up with oil quickly in Producers & Refiners' No. 2 Pringle Heirs, SW NE SW Section 15-14n-2w, Greendale Township, Midland County, with prospects of commercial production after acid treatment. Three other tests are nearing the Dundee in Greendale Township. Seven Porter Township tests also were drilling at more than 3,000 feet, with prospects of completion within

(Continued on Page 81)

Administrator's Report on Crude Stocks

WASHINGTON, D. C., Apr. 15.—Stocks of domestic and foreign crude petroleum at the close of the week ended April 6 totaled 324,484,000 bbls., according to data compiled by the Bureau of Mines, Department of the Interior, for Petroleum Administrator Harold L. Ickes. In comparison with data for the previous week, this total represents an increase of 303,000 bbls., which comprised an increase of 420,000 bbls. in stocks of domestic crude oil and a decline of 117,000 bbls. in stocks of foreign crude.

Current reports of the industry indicate that the daily average crude oil production was approximately 2,580,000 bbls., or about 25,000 bbls. below the average of the previous week. Daily average imports were approximately 99,000 bbls., or double the average for the week ended March 30. Crude runs to stills continued to decline, the average for the week being 2,360,000 bbls., a decline of 70,000 bbls. The estimated daily average balance of crude oil for the week ended April 6 was as follows (barrels): Production, 2,580,000; imports, 99,000, equals runs to stills, 2,360,000; increase in stocks, 43,000; exports, fuel and losses, 276,000.

STOCKS OF CRUDE PETROLEUM, MARCH 30 AND APRIL 6, 1935

(Barrels of 42 gallons)

Grade of crude oil—	Mar. 30	Apr. 6
Pennsylvania Grade	4,447,000	4,530,000
Other Appalachian	940,000	925,000
Lima-N.E. Indiana-Michigan	1,219,000	1,280,000
Illinois-S.W. Indiana	11,526,000	11,552,000
N. Louisiana and Arkansas	9,884,000	9,898,000
West Texas and S.E. New Mexico	30,877,000	30,585,000
East Texas	30,527,000	30,633,000
Other Mid-Continent	148,336,000	149,198,000
Gulf Coast	20,493,000	20,314,000
Rocky Mountain	27,624,000	27,676,000
California	34,319,000	34,021,000
Domestic crude	320,192,000	320,612,000
Foreign crude	3,989,000	3,872,000
Total*	324,181,000	324,484,000

*Represents approximately 98 per cent of total stocks in the United States, exclusive of producers' stocks.

Quarter Mile Extension in New Zone, Fitts Pool; New Wilcox Sand Pool in Seminole County

By JAMES McINTYRE

Oklahoma stepped forward the past week, both in production and returns on wildcat speculation. The most important news of the week from a production standpoint was the one-quarter mile extension, new producing zone for the Fitts Pool, in southern Pontotoc County. The extensioner for this area, E. H. Moore and others' No. 1 Mitchel, NW SW NW Section 31-2-7, which missed the Hunton, Sylvan, Misener section to pass through the Woodford shale directly into the Bromide zone due to a fault, was last reported at a total depth of 4,415 feet in the McLish sand, where it gauged 197 bbls. of oil flowing wide open the first hour and 87 bbls. of oil the second hour pinched in. It was shut down for a short period and upon being opened it gauged 161 bbls. of oil in 25 minutes. This producer, which was drilled in with an outfit permitting it to produce as drilling was in progress, is the first well in the Fitts Pool to encounter production in the McLish sand. McLish was topped at 4,210 feet; big increase in production at 4,308-4,405 feet; solid sand encountered from 4,405-15 feet.

Oklahoma

Estimated production by pools in Oklahoma for the week ended April 13 and for the preceding week follows:

	Barrels	
	Apr. 13	Apr. 6
Allen	8,375	8,400
Asher-West Asher	1,300	1,325
Burbank	9,000	9,750
South Burbank	10,500	11,000
Balance Osage	27,500	29,500
Blackwell	4,750	5,300
Bristow-Slick	9,250	10,750
Chandler	5,500	6,250
Crescent	5,175	5,025
Cromwell	4,250	4,750
Cushing-Shamrock	12,500	13,500
Duncan district	4,000	4,750
Edmond	1,750	1,600
Fish	7,225	8,075
Fitts	12,825	12,475
Gray	2,100	1,200
Graham	3,800	4,250
Healdton	8,750	9,750
Hewitt	4,750	5,250
Holdenville	1,850	1,975
Keokuk	3,350	3,275
Konawa	2,450	2,375
Lucien	10,100	6,200
Marshall-Lovell	900	1,000
Oklahoma City	179,550	122,450
Papoose	1,250	1,500
Polo	900	3,925
Sasakwa and townsite	2,725	3,025
Sholem-Alechem	4,000	4,500
Seminole Field:		
Bowlegs	12,300	10,000
Carr City	6,900	5,125
Earlsboro	10,125	9,150
East Earlsboro	9,825	8,375
South Earlsboro	1,250	1,100
Little River	14,175	10,800
East Little River	900	900
Maud	1,450	1,575
Mission	3,475	3,375
Seminole	11,550	9,700
East Seminole	1,250	1,200
Searight	3,750	3,225
Total Seminole	76,950	64,525
St. Louis-Pearson	25,525	29,700
Tatums	5,000	6,225
Tonkawa-Garber-Thomas	6,000	6,500
Wewoka	3,600	4,250
Yale-Jennings	4,750	5,250
Other pools	57,650	62,750
Total Oklahoma	529,850	473,325

Finding production in the McLish sand in this well opens an avenue of new thought from several angles. First, it definitely extends the Fitts Pool. Second, it leaves no doubt about there being large quantities of oil below the Bromide zone. Third, it causes a new conservation problem since production from both the Bromide and the McLish formations from the same well is prohibited, and thereby the probability arises regarding the drilling of additional wells to the deeper horizon.

For the past few weeks the Edmond Pool in northern Oklahoma County has been completing large producers with a more or less measured beat, and the past week saw the Marathon Oil Co.'s No. 2 Dahl, NE NW SE Section 31-14-3w, come in on production with an official potential of 2,038 bbls. in four hours, or at the daily rate of nearly 12,000 bbls. Production was coming from the second Wilcox sand drilled from 6,538 feet to 6,675 feet, total depth, which put 466 bbls. of oil in the tanks the first hour and 494 bbls. of oil the second hour accompanied with 12,000,000 feet of gas.

It has been reported that the Continental Oil Co. plans to lay a 6-inch pipe line from its main Oklahoma City to Ponca City line over to its Young lease in the Edmond Pool, thereby enabling it to handle its own production in the field. Last week Continental's No. 1 Young, SE NW Section 31-14-3w, extended production in the Edmond Pool, one location west, its official four-hour potential rating being 1,469 bbls., a daily rate of 8,814 bbls.

In the Seminole area, Atlantic Oil Producing Co. and associates' No. 1 Thomas, a wildcat in the NW SE Section 8-6-7, which was reported last week as flowing 100 bbls. per hour from the Wilcox sand at 3,945-47 feet, opening up a new Wilcox sand spot in the area, actually gauged 655 bbls. in 12 hours on a flow test. Total depth is now 3,950 feet in the sand, where it will probably be completed. It is situated midway between the Sasakwa and Konawa Pools in Seminole County.

Wood Oil Co., in its No. 1 Henry, SW NW SW Section 28-9n-6, extended production in the West Seminole Pool of Seminole County more than one-quarter mile east, when the well flowed 2,120 bbls. on a 48-hour potential gauge from 22 feet of Wilcox sand bottomed at 4,122 feet, total depth.

Situated on a seismograph structure about 1 mile due north of the nearest production in the Earlsboro Pool of Pottawatomie County, Howard Sherman's No. 1 Wingo, NE NW SE Section 32-10-5, appears favorably to open another producing spot in this sector of the greater Seminole area. A log of the well follows: Woodford, 4,090 feet; Misener, 4,200 feet; Sylvan, 4,202 feet; Viola, 4,290 feet; Simpson dense, 4,330 feet; Simpson dolomite cored from 4,340-61 feet showed good oil saturation. Pipe was to be set and the well treated at the latter depth.

Wildcat Operations in Oklahoma

Week Ending April 13

NORTHERN OKLAHOMA

BECKHAM COUNTY

Fred Coogan et al's No. 1 Shelton, SW cor. Sec. 33-10-25w.
S.D. 3,608 ft.

BLAINE COUNTY

Earl Ingrahm et al's No. 1 Masters, SW NW NW Sec. 27-16-11w.
T.D. 1,205 ft.; C.O.

CADDO COUNTY

H. W. Lee et al's No. 1 Horton, NE NE NE Sec. 9-6-13w.
Rig.

H. W. Lee et al's No. 1 Stacey Ferrell, SW NE NE Sec. 3-6-13w; (2,000-ft. test).
Drlg. shale 2,208 ft.

Denver Prod. & Ref. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w.
T.D. 11,220 ft.; C.O. to 10,000 ft.; flowing by heads 100 bbls. oil every other day.

CLEVELAND COUNTY

Sinclair Prairie et al's No. 1 Franklin, SE NW SE Sec. 21-10-2w.
Checkerboard 5,520 ft.; first Oolitic 5,840 ft.; T.D. 5,800 ft.; drlg. cmt.

COAL COUNTY

J. D. Petty Oil Co.'s No. 1 McMillan, SW NW NE Sec. 16-1s-8.
S.D. 1,368 ft.

H. F. Potts' No. 1 Nichols, C SW SW NW Sec. 32-2-9.
Bromide lime 2,045 ft.; drlg. 2,460 ft.

GARVIN COUNTY

Anderson & Kerr et al's No. 1 Rodke, NW NW SE Sec. 17-4-1w.
Location.

Charles Carter and W. S. Key, Inc.'s No. 1 Wood, C NW SW SE Sec. 5-4-3e.
Set surface pipe.

National Prod. Co.'s No. 1 Littrell, NE NE NE Sec. 31-2-3w.
6⅝-in. csg. 1,244 ft.; T.D. 1,538 ft.; S.D.

George L. Pace's No. 1 Smith, SW NE Sec. 35-1-1.
Drlg. 1,868 ft.

GRANT COUNTY

Helmerich & Payne's No. 1 Crouse, C NE SW Sec. 29-25-8w
T.D. 6,105 ft., lime; S.D.

GREER COUNTY

M. C. Ent and R. C. Camp's No. 1 Simington, SW SE Sec. 29-5-21w.
R.U. and S.D.

Gled Oil Co.'s No. 1 Luker, SE cor. Sec. 6-4-21w.
Machine.

Morgan et al's No. 1 Carder, C SW SE Sec. 19-4-22w.
T.D. 1,012 ft.; S.D. for fuel.

HUGHES COUNTY

Amerada Pet. Corp.'s No. 1-A Adams, NE NE SW Sec. 31-9-9.
First Wilcox 4,271 ft.; second Wilcox 4,307-17 ft.; T.D.; H.F.W. from both sands; P.B. to 4,095 ft.; good show oil; to acidize.

Dandridge & Crane's No. 1 Mead, NW NW NE Sec. 17-5-9.
S.D. 1,335 ft.

Freeman et al's No. 1 Kite, NW NW NE Sec. 8-6-10.
Set 5-in. csg. 598 ft.

KAY COUNTY

Harris & Haun's No. 1 Schuessler, C NW SW Sec. 1-28-2.
Chat 3,580 ft.; cmtng. cave at 3,615 ft.

Bay Oil Co.'s No. 1 Holden, SW SW SE Sec. 14-28-3.
5-in. 2,945 ft.; drlg. plugs.

J. T. Lindsay's No. 1 Waggoner, NW NW NE Sec. 3-27-1.
Location.

KIOWA COUNTY

Henson & Patton's No. 1 Beeler, NE cor. Sec. 11-6-15w.
T.D. 517 ft., lime; S.D.

Henson & Patton's No. 2 Beeler, NW NE NE Sec. 11-6-15w.
Drlg. 20 ft.

Rajah Oil Co.'s No. 3 Stone, C SE NE Sec. 34-7-17w.
R.U. machine.

LINCOLN COUNTY

Carter Oil Co. et al's No. 1 McFarland C-38, SW SW NE Sec. 18-13-4.
Cleveland sand 3,360-80 ft.; small show of oil; drlg. 3,649 ft.

Chester L. Carlock's No. 1 Young, C N½ NW NW Sec. 23-15-5.
Rig.

Mid-Continent Pet. Corp. et al's No. 1 Nunn, SE SE NW Sec. 25-15-1.
Location.

Slick-Urschel, Inc.'s No. 1 Miller, NW NW SE Sec. 25-15-3.
Tonkawa sand 3,995 ft.; drlg. 4,870 ft.

Stanolind et al's No. 1 Campbell, SW NW Sec. 3-14-3.
Drlg. 3,100 ft.

Stanolind O. & G. Co. and Amerada Pet. Corp.'s No. 1 Cavanaugh, SE NE Sec. 31-15-5.
Location.

LOGAN COUNTY

Anderson-Kerr et al's No. 1 Renfrow, NE cor. Sec. 33-16-4w.
Drlg. 4,265 ft.

Sinclair Prairie and Slick-Urschel's No. 1 Koatsch SW cor. Sec. 23-15-3w.
First Wilcox 6,218-50 ft.; show oil and gas; T.D. 6,264 ft.; set 7-in. csg. 6,102 ft.; W.O.C.S.

Sinclair Prairie Oil Co. et al's No. 1 School Land, SE cor. Sec. 36-17-1w.
Simpson dense 5,255 ft.; flowed 298 bbls. in 24 hrs.; top sand at 5,285-90 ft., T.D.; H.F.W.; P.B. to 5,266 ft.; flowed 63 bbls. oil and 5 bbls. wtr. in one 10-min. flow; acidized 1,000 gallons and shut in.

Slick-Urschel et al's No. 1 Pennington, C SW NE Sec. 10-16-1w
Simpson dolomite 5,534 ft.; Wilcox 5,581 ft.; no show; lost circulation at 5,587 ft.

J. C. Schaffer et al's No. 1 Hammond, SE SE SW Sec. 10-15-4w.
Drlg. 5,630 ft.

McCLAIN COUNTY

C. W. James et al's No. 1 Neal, C NW SE SW Sec. 4-5-3.
Wilcox 4,175-4,212 ft., T.D.; H.F.W.; P.B. to 2,739 ft. and ripped 8-in. csg. 2,690-2,700 ft.; H.F.W.; P.B.

NOBLE COUNTY

Marathon Oil Co.'s No. 1 Gilbert, NE cor. Sec. 24-22-2
Wilcox sand 4,449 ft.; T.D. 4,486 ft.; flowed 1,793 bbls. in 7 days; may deepen.

Stanolind-Amerada et al's No. 1 Fuller, C SE SW Sec. 34-20-2w.
First Wilcox 5,029-74 ft.; Dolomite 5,074-5,100 ft., T.D.; flow 787 bbls. in 24 hrs.

OKFUSKEE COUNTY

Amerada Pet. Corp.'s No. 1 Jaynes, NW NW SW Sec. 20-10-10.
Hunton 3,690 ft.; 10,000,000 ft. of gas at 3,704 ft.; Wilcox sand 3,932 ft.; T.D. 4,025 ft.; 275 ft. wtr. in hole; P.B. to 3,882 ft.; W.O.C.S.

OKLAHOMA COUNTY

W. H. Atkinson et al's No. 1 Reed, NE cor. Sec. 4-12-3w.
Drlg. below 5,700 ft.

Anderson & Kerr et al's No. 1 Linn, SW NW Sec. 17-14-2w
Second Wilcox 6,344-73 ft., T.D.; dry; S.D.

Gypsy Oil Co.'s No. 1 Shock, NW SW SW Sec. 2-14-3w.
Drlg. 3,630 ft.

R. Earl Larkin's No. 1 Brobine, NW NW NE Sec. 23-13-5w.
Drlg. 3,250 ft.

Sinclair Prairie O. & G. Co.'s No. 1 Corbett, NE NW NE Sec. 17-13-3w.
Cellar and pits.

Slick-Urschel Oil Co. et al's No. 1 Owen, SE cor. Sec. 19-13-3w.
Cellar and pits.

OSAGE COUNTY

Peters Pet. Co. and Nerbla Oil Co.'s No. 1, SW cor. Sec. 15-25-5.
S.D. at 3,134 ft.

PAWNEE COUNTY

Trees Oil Co.'s No. 1 Susan Wedd, C SE SE Sec. 27-24-6.
Drlg. 120 ft.

PAYNE COUNTY

Marathon Oil Co.'s No. 1 Potts, C SW SW Sec. 27-19-2
Top Arbuckle 5,085 ft.; T.D. 5,116 ft.; P.B. to 4,550 ft.; set 6-in. 4,489 ft.; drilled plug and got wtr.; P.B. to 4,510 ft.; H. F.W.

PITTSBURG COUNTY

McAllister Pet. Corp. et al's No. 1 Chunn, C SE NW Sec. 29-4-14.
T.D. 1,530 ft.; pipe collapsed; S.D.

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North-North Central Oklahoma

Kay County

Offsetting the Bay Oil Co.'s No. 1 Hudson, Skinner sand discovery of a few weeks back, the same company's No. 1 Curtis, NE NW Section 23-28-3, Kay County, encountered only a small show of oil in the Skinner sand logged from 2,964-83 feet and Bartlesville sand found at 3,058 feet had only a small showing. The test was sent down to the Mississippi lime, 3,136-48 feet, total depth, which was dry. It was plugged back to the Bartlesville sand and given a 140-quart shot of nitro from 3,058 to 3,105 feet, which resulted in a small show of oil and water. The test was shut down for orders.

Texas Co.'s No. 1 H. Curtis, NW NE Section 23-28-3, offsetting the Bay Oil Co. discovery to the south, encountered a hole full of water in the Bartlesville sand logged from 3,080-3,093 feet, total depth. Six-inch pipe was to be run into the hole and a test of the Mississippi lime was contemplated. Skinner sand in this test was dry.

Noble County

The Lucien Pool extensioner of last week, Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Fuller, C SE SW Section 34-20-2w, Noble County, which had Wilcox sand 5,029 feet, flowed 100 bbls. of oil in 15 minutes and went dead. Dry sand was then cored from 5,029 feet to 5,034 feet but at 5,100 feet, total depth, apparently in dolomite formation topped at 5,074 feet, it flowed 787 bbls. of oil in 24 hours.

Magnolia Petroleum Co. was reported to have made a location in the C S half NE SW Section 34-20-2w, offsetting Stanolind-Amerada's No. 1 Fuller, to the north.

Shell Petroleum Corp. apparently was getting a failure in its No. 1-A Tate, C NW NW Section 29-20-2w, Lucien Pool.

First Wilcox sand topped at 5,078 feet was dry and second Wilcox topped at 5,209 feet was indicating water at 5,285 feet where drilling was in progress. In the East Lucien Pool, Sinclair Prairie Oil & Gas Co. had plugged and abandoned No. 1 Kriethe, C SE NE Section 28-20-2w, at a total depth of 5,295 feet. First Wilcox sand at 5,155 feet and second Wilcox sand at 5,230-95 feet were void of oil, the latter sand producing water. The test was not abandoned, however, until a test had been made of the Oswego lime logged at 4,610 feet.

Operations in the Polo Pool of Noble County: Atlantic Oil Producing Co. and others' No. 1 Porter, SE NW SW Section 22-22-2w, found Layton sand at 3,870 feet and was drilling at 4,180 feet. Stanolind Oil & Gas Co.'s No. 5 Devore, NW SE NW Section 27-22-2w, was drilling at 2,950 feet. Stanolind Oil & Gas Co.'s No. 1 DeBord "A," NE SW Section 27-22-2w, was drilling at 4,520 feet. Stanolind Oil & Gas Co. and others' No. 4 DeBord "B," NW SW SW Section 27-22-2w, logged Viola lime at 4,814 feet and at 4,837 feet it swabbed 84 bbls. of oil in four hours, cutting 9 per cent.

Logan County

Eason Oil Co.'s No. 4 Katscher No. 2, NW SW Section 34-17-4w, Crescent Pool of Logan County, was completed in the first Wilcox sand 6,183-97 feet, flowing 5,732 bbls. the first 24 hours. Its six-hour potential was 1,844 bbls. with an estimated 6,000,000 feet of gas. Total depth is 6,212 feet. Carter Oil Co. and Gypsy Oil Co.'s No. 3 Herren, C NW NE Section 28-17-4w, Crescent Pool, topped Simpson dense at 6,132 feet and was shut down waiting for cement to set after running pipe to 6,121 feet. Same operators' No. 1 M. Herren, south end of the Crescent Pool in SE NW NE Section 4-16-4w, was drilling at 3,398 feet.

East of Guthrie, Slick-Urschel Oil Co. and others had abandoned their No. 1 Pennington, C SW NE Section 10-16-1w, Logan County, at total depth of 5,697 feet, 57 feet in second Wilcox sand topped at 5,640 feet. No shows were had in either of the Wilcox sands.

Southwest of Guthrie, Sinclair Prairie Oil & Gas Co.'s wildcat, No. 1 Koatsch in Section 23-15-3w, developed salt water in a bailing test of the Wilcox sand at a total depth of 6,254 feet. Well was shut down for orders. First Wilcox sand 6,211-48 feet.

Osage County

To date, the largest shot to be given any well in the South Burbank Field was the 160-quart shot put in the Skelly Oil Co.'s No. 9 Ducotey, NW SW Section 3-25-6, Osage County, which had been completed in Burbank sand from 2,717-78 feet, total depth, swabbing 742 bbls. the first 24 hours. Champlin Refining Co.'s No. 2, SW NW NE Section 22-25-6, south end of the South Burbank Pool in Osage County, getting 1,700 feet of water from the Burbank sand topped at 2,836 feet, was drilled to the Chat topped at 2,916 feet and at 2,929 feet, total depth, it was abandoned with a hole full of water. Joe P. Stewart's No. 1-A, NE SW Section 34-26-9, Osage County, logged sandy lime from 2,051-57 feet, total depth, and it was completed on the pump for 20 bbls. of oil daily.

In the Naval Reserve Pool of Osage County, Sinclair Prairie Oil & Gas Co.'s No. 7, NE NW SW Section 15-24-7, swabbed 30 bbls. daily in Bartlesville sand drilled from 2,513-2,595 feet, total depth. Champlin Refining Co.'s No. 8, SE SW NW Section 16-24-7, Naval Reserve Pool, on its completed gauge swabbed and flowed 290 bbls. in 24 hours from Bartlesville sand at 2,583-2,628 feet, total depth. A. H. Kasishke's No. 13, NE SE NE Section 16-24-7, Naval Reserve Pool, swabbed 45 bbls. natural from Bartlesville sand at 2,590-2,643 feet, total depth. It was given a 140-quart shot of nitro from 2,612-69 feet and production was increased to 686 bbls. in 24 hours. It was completed. Lewis Production Co. and Continental Oil Co.'s No. 8, NE NW SW Section 16-24-7, Naval Reserve Pool, had Bartlesville sand from 2,583-2,628 feet, total depth, which flowed and swabbed 413 bbls. first 24 hours after a 50-quart shot from 2,593-2,628 feet.

Continental Oil Co. and Gypsy Oil Co. had completed No. 11, SE NE SE Section 21-24-7, Osage County, in the Bartlesville sand logged at 2,512-2,609 feet, total depth, for 330 bbls. the first day after shooting sand from 2,539-2,609 feet with 140 quarts of nitro.

In the North Tearlton Pool of Osage County, Murray Ringold's No. 4 Hughes, SE NW SE Section 12-20-7, encountered a hole full of water in the Simpson formation at 2,700-10 feet, total depth, and it was abandoned.

In the Keystone district of Osage County, Norbla Oil Co. and others had abandoned their No. 2, SE NW NW Section 9-20-10, at 2,637 feet, total depth, 3 feet in the Siliceous lime, where water was encountered.

New work in Osage County follows: Norbla Oil Co. and others' No. 2, NW NE SW NE Section 25-22-7. location; Murray Ringold's No. 6, SE NW SW NE Section 25-21-8, location; Phillips Petroleum Co.'s No. 1, SE NE Section 4-25-6, location; Mead Oil Co. and others' No. 8 Presbury, NW SW SW Section 10-25-6, location; Mead Oil Co. and others' No. 9 Presbury, SW NW SW Section 10-25-6, location; Phillips Petroleum Co.'s No. 9, SW NW NW Section 15-25-6, rig on ground; H. F. Worley's No. 5, SW SE SW Section 16-25-6, location; Phillips Petroleum Co. and Indian Territory Illuminating Oil Co.'s No. 14, SW NE SE Section 10-25-7 (O.W.D.D.), total depth 3,002 feet, rigging up to deepen.

Lincoln County

In the Gessman Pool of Lincoln County, Texas Co. completed its No. 2 Hoover, NW NE SE Section 33-14-4, for 567 bbls. of oil, flowing 24 hours from the Cleveland sand logged at 3,057-3,066 feet, total depth. Shell Petroleum Corp. abandoned location for its No. 1 Grover, NE SE NW Section 5-14-3, offsetting to the west the Sinclair Prairie Oil & Gas Co.'s No. 1 Hoyt, which was recently completed in the Simpson dolomite for 180 bbls. of oil. Stanolind Oil & Gas Co. and Amerada Petroleum Corp. had staked location for their No. 1 Cavanaugh in the SE NE Section 31-15-5. This test, based on seismograph information, is about 2 miles west of production in the Davenport Pool of Lincoln County.

Oklahoma County

Two new locations were made in the Edmond Pool of Oklahoma County the past week. Marathon Oil Co. had location staked for its No. 6 Dahl, SE SW SE Section 31-14-3w, and the Mid-Continent Petroleum Corp. was digging cellar for its No. 4 Young, NW SW NE Section 31-14-3w. Marathon Oil Co.'s No. 2 Dahl, NE NW SE Section 31-14-3w, got Wilcox sand 6,538-6,681 feet, total depth, flowing 2,038.06 bbls. in four hours on potential test, and 9,500,000 feet of gas. It was completed. Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 2 Suenram, NW NE NE Section 6-13-3w, was drilling below 4,310 feet.

Northeast of Edmond, Anderson & Kerr and others' No. 1 Linn, SW NW Section 17-14-2w, was shut down at 6,373 feet, total depth, in 29 feet of white salty Wilcox sand topped at 6,344 feet, reported to be the second Wilcox sand.

Sinclair Prairie Oil & Gas Co. was digging cellar and pits for its wildcat test, No. 1 Corbett, NE NW NE Section 17-13-13w, south of the Edmond Pool.

In the Oklahoma City Pool proper, Sunray Oil Co., Wirt Franklin and Fain Drilling Co. had location staked for No. 2 County, NE NW NE NW Section 1-11-3w, and had started digging cellar and pits.

Seminole County

Merva Oil Co. in its No. 2-A Johnson, C NW NE Section 10-10-8, Cromwell Pool in Seminole County, found sand from 1,608-54 feet, total depth, good for 27 bbls. of oil first 24 hours after shooting same with 40 quarts of nitro. It was completed. In the Seminole City-Searight area, Oklahoma Oil Corp. had abandoned location for its No. 1 Patterson, NW NW SE Section 12-9-6, Seminole County. At Little River, Dave Malarnee and others' No. 1-A Wood, SE SW SW Section 27-7-6, Seminole County, logged sand at 2,159-2,169 feet, total depth, which flowed 70 bbls. of oil in 24 hours for its completed gauge.

Empire Oil & Refining Co.'s No. 5 Myers, SE NE NE Section 31-7-8, Fish Pool in Seminole County, encountered a hole full of water in the Wilcox sand 4,241½-42 feet, total depth, and it was plugged back to 3,347 feet, shot from 2,915-81 feet and completed for 8,000,000 feet of gas. Stanolind Oil & Gas Co.'s No. 2 Myers, NE NW NE Section 31-7-8, Fish Pool, was completed in Wilcox sand 4,251-4,254 feet, total depth, flowing 304 bbls. of oil in six hours on potential test. T. C. Inglehart's No. 1 Rogers, NE NW NW Section 32-7-8, Fish Pool, got a hole full of water in the Wilcox sand at 4,223-4,228 feet, total depth, and it was abandoned.

The Carter Oil Co. and associates had made locations for No. 2 Renton, C S half NE NW Section 2-10-6, their No. 4 Riddle, C N half NW SE Section 35-11-6, and No. 3 Canard, C N half SE SW Section 35-11-6, all in the Keokuk Pool of Seminole County. Carter Oil Co. had

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location staked for its No. 1 Alexander in the C W half SW NE Section 14-10-6, South Keokuk Pool in Seminole County, and offsetting to the west Magnolia Petroleum Co. had a rig up for its No. 1 Brown, C E half SE NW Section 14-10-6.

In the North Searight Pool of Seminole County, Carter Oil Co. and others had location staked for No. 1 Harris, C W half SW SE Section 18-10-6. Carter Oil Co. had made location for its No. 1 G. Kiker, C W half NE NW Section 11-9-6, Searight Pool, Seminole County.

Other new work in Seminole County follows: Deep Rock Oil Corp.'s No. 2 Hagler, NE SE NE Section 19-9-7, cellar and pits; Magnolia Petroleum Co.'s No. 8 (Twin) Reed, SE SW SE Section 30-7-8, 12½-inch casing 55 feet, W.O.C.S.; Dave Malernee's No. 1-A Wood, SE cor. Section 28-7-6, rigging up rotary; Atlantic Oil Producing Co. and others' No. 2 Diamond, NE SW Section 8-6-7, location; same company's No. 1 Gentner, SE NW Section 8-6-7, location; Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 2 Reed, SE SW SW Section 25-6-7, building rig; Gypsy Oil Co.'s No. 2 Grayson, NW SW NW Section 13-6-5, building rig.

Pottawatomie County

On the east side of the Maud Pool in Pottawatomie County, Texas Co. and others had completed No. 1 School land in the NW SW NW Section 16-8-5, in the Hunton lime 4,003-4,070 feet, total depth, for 50 bbls. in 24 hours on the pump. It had been plugged back to 4,060 feet from 4,070 feet and acidized with 1,000 gallons.

In the St. Louis Pool of Pottawatomie County, Mid-Continent Crude Oil Purchasing Co.'s No. 1 Atwater, NE SE SE Section 9-7-4, bottomed at 4,225 feet in Simpson dolomite where it showed water, was plugged back to 4,221 feet in dolomite topped at 4,203 feet and completed for 40 bbls. in 24 hours on the pump. On the east side of the St. Louis Pool, Sinclair Prairie Oil & Gas Co.'s No. 2 Hambree failed to make a commercial oil well in the Hunton lime logged from 3,828 to 3,897 feet, total depth, and it was abandoned. This well swabbed 40 bbls. in 24 hours from the Hunton, but it was given a 30-quart shot which collapsed the pipe. It was later treated with 500 gallons of acid and swabbed some oil but was given up as a bad job and abandoned.

Westgate Oil Co. got a hole full of water in its No. 1 Bullard, NE SW SE Section 18-7-5, St. Louis Pool, at 4,270 feet, total depth, 8 feet in Wilcox sand, and it was abandoned. Hunton lime in this test produced 8 bbls. of oil in 24 hours after acid treatment. In the southeast edge of the St. Louis Pool, Westgate Oil Co. got a nice producer in its No. 2 Schrader, SE NW NE Section 6-6-5, Wilcox sand from 4,207 to 4,208 feet, total depth, put 2,880 bbls. of oil in the tanks in 48 hours on its completed gauge.

Pottawatomie County first reports follow: Phillips Petroleum Co.'s No. 1 Dobbs, C SE SE Section 19-8-5, spudding; American Bond & Investment Co.'s No. 1 Motley, C SW SE Section 10-7-3, rig; Superior Oil Co.'s No. 1 Long, NE NW NE Section 5-6-4, rig; Amerada Petroleum Corp.'s No. 1 Smith, NE NW Section 6-6-5 (O.W.D.D.), 7-inch casing at 4,172 feet, W.O.C.S.; Westgate Oil Co.'s No. 4 Schrader, SE NW NE Section 6-6-5, cellar and pits.

Hughes County

Hughes County operations the past week resulted in no wells being completed and two new operations. Shepard Drilling Co. and others' No. 1 Oliphant, NE SW Section 12-9-8, was rugging up machine; Texas Co.'s No. 1 Keaton, NW SW Section 4-8-10, wildcat test on seismograph structure, was building rig.

Pontotoc County

Operations in the Fitts Pool of Pontotoc County during the week resulted in two completed oil wells and three new operations. E. H. Moore and others' No. 2 Showers, SW NW Section 29-2-7, logged Bromide lime at 4,025 feet, first sand at 4,135 feet, second sand at 4,210 feet, McLish lime at 4,246 feet and total depth at 4,248 feet. It flowed 400 bbls. first hour through casing and 658 bbls. of oil in four hours on its potential gauge through tubing. Carter Oil Co.'s No. 7 Hardin, SW SE SW Section 30-2-7, Fitts Pool, gauged 357 bbls. of oil in four hours on its potential gauge flowing through tubing. Bromide 3,865 feet, first sand 3,970 feet, second sand 4,050 feet, McLish lime 4,090 feet and total depth 4,095 feet. After taking the four hours' potential gauge 2,000 gallons of acid was run into the hole and the well was shut down awaiting effects of the treatment. E. H. Moore and others' No. 1 Mitchell in Section 31-2n-7e is producing in the McLish sand.

Location had been abandoned for the wildcat test of W. A. Delaney and others' No. 1 Fulsome, SE NE Section 35-4-6, Pontotoc County.

In the Conservation Pool, Sulmac Oil Co. in its No. 1 Hart, NE SW NW Section 27-5-6, Pontotoc County, had acidized Hunton lime logged at 2,672-2,797 feet, with 1,000 gallons and it was completed for 286 bbls. of oil and 150 bbls. of water in 60 hours pumping time. Total depth is 2,800 feet in Sylvan shale.

In the Allen Pool of Pontotoc County, Sinclair Prairie Oil & Gas Co.'s No. 5 Ralls, SW NW SE Section 28-5-8, had sand from 778 to 799 feet, total depth, which was good for 50 bbls. of oil in 24 hours on the pump. It was completed.

New work in Pontotoc County the past week was as follows: Amerada Petroleum Corp. had made location for its No. 1 and No. 1-A George Smith, in Section 28-2-7, the No. 1 being located in the SE SW NW and the No. 1-A (shallow gas test) in the C S half NW. Magnolia Petroleum Co. had location made in the NE SE NW Section 25-2-6 for its No. 3 Schaffer. Radial Oil Co.'s No. 3-A Lee, NW NE NE Section 20-4-8, moving in tools. Continental Oil Co. had made location for its No. 1 McCarty in the C SW NW Section 12-1-7, Jesse Pool, in Pontotoc County.

Wildcat Operations in Oklahoma

(Continued from Page 65)

P. H. Gray et al's No. 1 Lee, NW SE Sec. 12-5-12.
T.D. 1,210 ft.; fishing tools.

PONTOTOC COUNTY

Anderson & Kerr's No. 1 Newburn, NW SW NE Sec. 24-5-3.
Drlg. 2,025 ft.

E. M. Blanchard's No. 1 Crabtree, NE SE NE Sec. 27-3-6.
S.D. 2,920 ft.

Philip Boyle's No. 1 McCracken, NE NW NW Sec. 31-5-4.
Drlg. 985 ft.

Charles E. Carter's No. 1 Wood, NW SW SE Sec. 5-4-3.
S.D. 2,070 ft.

L. Chandler's (Crabtree) No. 1 Chandler, NE SE SW Sec. 4-5-6.
Drlg. 1,275 ft.

Continental Oil Co.'s No. 1 McCarty, C SW NW Sec. 12-1-7e.
Location.

Crabb-Craw Oil Co.'s No. 1-A Breco, SE NE SW Sec. 3-4-6.
Sand 1,106-18 ft.; pumped 10 bbls. in 24 hrs.; S.D.

W. A. Delaney et al's No. 1 Fulsome, SE NE Sec. 35-4-6.
Location.

Fleetborn Oil Corp.'s No. 1 Oliver, NE NW SE Sec. 21-4-5.
Mayes 1,165 ft.; Woodford 1,225 ft.; Hunton 1,601 ft.; Sylvan 1,651 ft.; Viola 1,804 ft.; coring at 1,822 ft.

Mudge O. & G. Co.'s No. 1 Clampett, SW NW NW Sec. 10-2-6.
S.D. 916 ft.

Paramount Oil Co.'s No. 1 Graham, SW SE SW Sec. 12-1-7.
500 ft. wtr. in hole from second Bromide sand at 3,288-98 ft.; top lime 3,357 ft.; sand 3,405-08 ft.; sand 3,473-78 ft.; H.F.W.; S.D.

Gillett & Kroeger's No. 1 Robbins, NE SE Sec. 31-1-4.
Machine.

Gillette & Kroeger's No. 1 Duver, NW SE Sec. 36-1n-6e.
T.D. 1,247 ft.; S.D.

Southern Oil Co.'s No. 1 Walker, NW NW SW Sec. 11-4-6
Sand 1,160-69 ft.; show oil; setting 8-in. csg. 1,160 ft.

POTTAWATOMIE COUNTY

Howard Sherman et al's No. 1 Wingo, NE NW SE Sec. 32-10-5.
Simpson Dolomite 4,340 ft.; T.D. 4,361 ft.; good show oil.

C. W. James et al's No. 1 Neal, C NW SE SW Sec. 4-5-3.
Wilcox 4,175-4,212 ft.; H.F.W.; P.B. to 3,340 ft.

PUSHMATHA COUNTY

Wm. Ungerman et al's No. 1 Misser, SE SW SW Sec. 35-35-18.
Drlg. 2,950 ft.; H.F.W.

SEMINOLE COUNTY

Ray Dorris and J. T. Hall's No. 1 Dorris, SE SE SW Sec. 31-10-7.
Sand 520-60 ft.; H.F.W.; S.D. 608 ft.

Crabtree Drlg. Co.'s No. 1 Chandler, NE SE SW Sec. 4-5-6.
S.D. 110 ft.

Verser & Clay et al's No. 1 Thomas, NE SE NW Sec. 1-6-6.
S.D. at 2,802 ft.

Wofford Drlg. Co. et al's No. 1 Abbott, NE cor. Sec. 33-8-7.
Rig only.

Wofford Drlg. Co. et al's No. 1 Thomas, NW SE Sec. 8-6-7.
Wilcox 3,945-47 ft., T.D.; flowed 245 bbls. oil in 24 hrs.

TEXAS COUNTY (PANHANDLE)

Ben F. Ash et al's No. 1 Guymon Townsite, C NE SE Sec. 30-3n-15e; (Cimarron Meridian).
T.D. 2,420 ft.; fishing for drill pipe

WASHITA COUNTY

Okla.-Midwestern Oil Co.'s No. 1 Dock, SW cor. Sec. 21-8-18w.
T.D. 2,430 ft.; lost tools in hole; rig rebuilt; S.D.

Anadarko Basin Oil Co.'s No. 1 Wolf NE SW Sec. 23-9-17w.
Rigged up and S.D.

L. P. McWhirter's No. 1 fee, SW cor. Sec. 34-8n-19w.
Machine.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Keaton et al's (Brookshire) No. 1 Rowland, NW NE NE Sec. 18-3-10.
H.F.W. 3,844 ft.; P.B. 757 ft.; treated with acid.

Clark et al's No. 1 Morrison, SE cor. Sec. 32-1-14.
S.D. at 80 ft.

Malernee et al's No. 1 D. O. K. Land Co., C SE SE Sec. 36-2s-12.
S.D. 2,115 ft.

H. W. Sears et al's No. 1 Downing, SE NW Sec. 17-1s-14.
Location.

BRYAN COUNTY

C. B. Welch's No. 1 Collins, NE NE Sec. 18-5s-5e.
S.D. 570 ft.

Trio Oil Co.'s No. 1 Gibert, SW NE SW Sec. 25-8s-7.
Drlg. 343 ft.

CARTER COUNTY

Waco Turner's No. 1 Munson, NE NW NE Sec. 35-5s-2w.
Show gas 1,965-87 ft.; drlg. 2,065 ft.

Carter Oil Co.'s No. 1 Carter-Williams, SW NE SW Sec. 27-2s-3w (7,000-ft. test).
9-in. csg. 4,909 ft.; Hunton lime 4,915-5,014 ft.; drlg. plugs.

CHOCTAW COUNTY

Burns et al's No. 1 Hallum, NE NW NW Sec. 4-7s-20.
Rigging up.

COMANCHE COUNTY

H. W. Baker's No. 1 Miller, SE SW SE NE Sec. 22-2-13w.
S.D. 120 ft.

Oscar Jones' No. 1-A Sheetz, NE SW Sec 26-3-10w.
Machine.

Henry Rosenthal et al's No. 1 Au-che-re-ah, NW NW NW Sec. 5-1n-9w.
Drlg. 1,700 ft.

F. F. Stevens' No. 1 Green, SE SW Sec 2-1-13w.
Drlg. 1,503 ft.

Heiden & Taylor's No. 2 Crutcher, C NE Sec. 11-1n-12w.
S.D. at 860 ft.

HARMON COUNTY

Jud Leath et al's No. 1 McConnell, NW cor. Sec. 22-3-24w.
Rigged up and S.D.

Wilson & Walker's No. 1 Wilhelm, SE cor. Sec. 30-4-24w.
Spud and S.D.

GREER COUNTY

D. E. Whatley et al's No. 1 Hamilton, NW SE Sec. 25-4-24w.
Cellar.

JACKSON COUNTY

Associated Oil Co.'s No. 1 Harrell, NE SW Sec. 13-1-21w.
T.D. 1,240 ft.; S.D.

J. G. Buel et al's No. 1 Kizziar, SE SE NE Sec. 2-2n-22w.
Drlg. shale 1,445 ft.

Burke-Greis Oil Co.'s No. 1 Millbrant, SW NW SW Sec. 31-3-19w.
Location.

Burk Royalty Co.'s No. 1 Gore, SE NW SE Sec. 3-1s-20w.
S.D. at 1,909 ft.

A. H. Emenheiser's No. 1 Morrell, SE SW SE Sec. 17-3n-21w.
S.D. 910 ft.

Golden & Cochran's No. 1 Duncan, NE cor. Sec. 34-2n-21w.
Drlg. shale 1,990 ft.

Gypsy Oil Co.'s No. 1 Boucher, NW SW SW Sec. 32-1-19w.
Drlg. 1,045 ft.

Gypsy Oil Co.'s No. 1 Stokes, SE NW SW Sec. 11-1-20w.
Lime 1,709-11 ft.; T.D. 1,722 ft.; S.D.

Jack Kilgore's No. 1 Wooldridge, SW SW NE Sec. 15-3n-21w.
Drlg. dry granite wash 2,005 ft.

Loper et al's No. 1 Conrad, NE cor. Sec. 35-1s-19w.
Drlg. shale 1,150 ft.

Palo Duro Oil Co.'s No. 1 Ealum, SW SW SE Sec. 16-2-21w.
Drlg. 970 ft.

Triangle Oil Co.'s No. 1 Fox, C E½ W½ NW Sec. 11-3n-20w.
T.D. 600 ft.; fishing tools.

Whatley & Whatley's No. 1 Holt, NW SW SE Sec. 20-1n-20w.
Drlg. 1,430 ft.

JEFFERSON COUNTY

Gypsy Oil Co.'s No. 1 James, SW SE SE Sec. 30-4s-6w.
Drlg. 665 ft.

JOHNSTON COUNTY

W. A. Delaney et al's No. 1 Diamond, NW NE SE Sec. 5-1s-8.
Drlg. 2,100 ft.

LOVE COUNTY

Amerada and Stanolind's No. 1 W. & D., NW SE SE Sec. 27-6s-2e.
T.D. 1,872 ft.; crooked hole; may skid rig for new hole.

MARSHALL COUNTY

Paul Robb's No. 1 Vittetoe, C NE SE Sec 11-5s-4e.
Drlg. lime 5,405 ft.

McCURTAIN COUNTY

J. V. Scrivener et al's No. 1, NE SW SW Sec. 24-6s-21.
Machine.

MURRAY COUNTY

Equitable O. & G. Co.'s No. 1 Baer, SW NW NW Sec. 21-1s-3e.
Drlg. 721 ft.

Equitable O. & G. Co.'s No. 1 Ferguson, NE NE SW Sec. 36-1s-3.
Drlg. 26 ft.

Manahan et al's No. 1 Ward, NE SE NW Sec. 18-1s-3; (Wilcox sand test).
Top McLish 1,774 ft.; drlg. 1,890 ft.

STEPHENS COUNTY

Wm. Angle et al's No. 1 Cooper, NE NW NW Sec. 23-2-7w.
Sand 1,902-06 ft.; show gas; drlg. 2,745 ft.

J. W. Madison's No. 1 Tussey, SW SE NE Sec. 24-1n-4w.
Rig down, drill pipe in hole; T.D 1,220 ft.

TILLMAN COUNTY

J. G. Buell et al's No. 1 Haught, SE NE Sec. 22-1-16w.
Drlg. 260 ft.

Cockburn & Boose's No. 1 Nichols, SE cor. Sec. 28-2s-19w.
Drlg. 1,250 ft.

SOUTHWESTERN OKLAHOMA

Jackson County

The past week saw another test for the Altus area of Jackson County fail by the wayside. Harrell-Davis Oil Co.'s No. 1 Summers, NW NE Section 13-1-20w, was dry and abandoned at 1,797 feet in shale, missing the granite wash formation. Gypsy Oil Co. was rigging up machine for its No. 2 Kelly, SW NE NE Section 10-1-20w, Altus Pool, in Jackson County.

Stephens County

T. H. McCasland's No. 1-B Burkleo, NW SW NW Section 4-2s-8w, Comanche Pool of Stephens County, was completed for 5 bbls. a day on the pump in sand from 2,233-2,235 feet, total depth. In the same area, Beard & Kolb had abandoned No. 1 McKee, NE NW SW Section 11-2s-8w, at 2,100 feet, total depth. A showing of oil was had in sand logged at 1,484-90 feet. Same company's No. 2 McKee, NE NW SW Section 11-2s-8w (twin well), logged sand 1,480-90 feet which carried water and the test was abandoned at 1,510 feet, total depth.

New work in Stephens County during the week was as follows: L. B. Simmons was drilling at 70 feet with rotary tools in his No. 1 Glaze, SW NW Section 16-1-8w; Louis Sikes was spudding at 60 feet in his No. 2-B Dolan, C S half NW NW Section 15-1s-8w; George Pace and other's No. 5 Pitts, NW NE NW SE Section 3-2s-8w, location; Bridwell Oil Co.'s No. 1 Montgomery, NW SW NW SE Section 11-2s-8w, was rigging up rotary tools.

Comanche County

In the Lawton district of Comanche County, W. A. Baber and others had abandoned their No. 1 Hodges, CSL SW NW Section 31-2-10w, at 150 feet.

Washita County

L. P. McWhirter had machine up for his No. 1 fee, SW cor. Section 34-8-19w, a wildcat location in southwestern Washita County.

Grady, Carter Counties

In the Knox Pool of southern Grady County, Magnolia Petroleum Co. had staked location for its No. 7 Harrison, SE NE Section 28-3-5w, and materials were being moved in.

In Carter County, Healdton Pool, Shell Petroleum Corp. had completed for a repressuring well, its No. 47 Wirt Franklin, NE SW NE Section 8-4s-3w. Total depth was 1,024 feet and it was

(Continued on Page 74)

California's Legislative Committee Recommends Ratification of the Interstate Oil Compact

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Apr. 15.—The Assembly Oil Industries Committee voted overwhelmingly to recommend that California join the interstate oil compact with Texas, Oklahoma, Kansas and New Mexico despite protests from a group of small operators who charged this would react unfavorably to California. The committee, by a vote of 5 to 1, gave a favorable report to assembly bill No. 2,392, introduced by Assemblyman Minard of Fresno. The bill will be called for action by the legislature soon and while pressure will be brought to bear from every possible angle it stands an excellent chance of passage.

Assemblyman Riley of Long Beach cast the lone vote against the bill and Assemblymen Latham of Alhambra and Roberton of Santa Barbara refused to vote. Those voting for the resolution were De Lap of El Cerrito, Turner of Delano, Utt of Tustin, Wright of Whittier and McBride of Ventura. The bill authorizes the governor to appoint California's representative to the interstate oil commission formed by the agreement but opponents of the bill succeeded in forcing an amendment providing the Senate must confirm the governor's choice. An emergency clause, to make the bill effective immediately, was striken out.

Production Lower

Crude production, reflecting the marine strike and a revision in method of making potential tests, has been below the permitted allowable for two weeks. Production in the Ventura Avenue Field has been cut in half since the seamen's strike but operators may subsequently be allowed to make up their shortages. Reduction of the period for making flow tests of new wells from five days to one day is a step in the right direction because the increasing number of new wells has had a tendency to seriously disturb and in some cases disrupt curtailment. The oil administrator has pointed out to the California curtailment committee that "it seems inevitable that unwarranted development of such fields as Playa Del Rey, Mountain View, North Belridge and others will set in motion economic forces which the oil industry of California will find itself unable to solve as I have been informed that the present development program may possibly result in the addition of approximately 800,000 bbls. per day of new potential during the current year."

Flow Tests Cut

In addition to enhancing curtailment, the restriction placed upon flow tests will alleviate marketing conditions which have become complicated by the lack of storage facilities. A short time ago, Umpire Pemberton advised operators that "the oil industry in California is confronted with a serious situation in spite of heavy withdrawals from storage in the past 18 months. These withdrawals have been exclusively in two classes, refined products and residual and fuel oils. Despite a large amount of empty earthen storage from which fuel oil has been withdrawn, the stocks of refinable crude have increased during the entire period since September 8, 1933, and the purchasing companies cannot continue to place refinable crude in storage. Refinable crude has been added to storage because of overproduction of this type of oil, caused by producers taking advantage of flow test rules in effect, whereby they produce a vast amount of excess which they do not make up by subsequent underproduction. The seriousness of the situation is such that the price of refinable crude will inevitably be cut unless actual production is balanced with the consumer demand as certified by the petroleum administrator from month to month."

The Central Committee of California Oil Producers at a subsequent meeting ordered that "flow tests on all wells shall be limited to 24 hours duration and all excess production over the prescribed allotment shall be absorbed within 30 days and further that retests shall not be permitted at all, excepting under the strict agreement that any excess so produced during a retest shall be absorbed within 30 days. The oil umpire is authorized to promulgate such new rules regarding potential tests as may be necessary to effect the desire of the Central Committee of California Oil Producers." New rules covering potential production tests in conformity with the decision of the Central Committee were issued immediately and are now in effect.

Crooked Hole Drilling

It appears probable the California legislature, after several years of controversy, will probably pass, at this session, a crooked hole bill which will prevent illegitimate drilling operations. The measure now under consideration is not as far reaching as some proposed but it will probably receive the approbation of all legitimate operators. It is not expected there will be much opposition to the bill in its present form, at least not from operators who conform with the ethics of drilling. The measure, assembly bill No. 686, was reported out of committee with a recommendation that it be passed.

The crooked hole bill, as amended, deals only with wells drilled after the measure becomes effective, which will not be ealier than August. The bill does not affect any wells started or completed prior to the effective date. The bill requires that owners of new wells shall supply the state oil and gas supervisor during the progress of drilling all information available as a result of subsurface directional survey in order that the exact bottom of the hole may be definitely determined with respect to its vertical position.

When the information or data shown by a survey filed with the state oil and gas supervisor indicates the well has departed from the vertical to such an extent it is outside the limits of the lease or property upon which it was started or beyond the boundaries of the property upon which the owner has a right to drill a well and produce oil, the supervisor shall issue an order that the well be straightened or abandoned. If the operator fails to comply within a reasonable time, the records of the survey shall become public property and the director of natural resources may institute an action in the Superior Court of the county to enjoin further operations on the well.

Legal Recourse

The bill further provides that any corporation or person injuriously affected by the departure of a well from the vertical may institute action in the Superior Court to enjoin the offending operator from further work and force compliance. Sponsors of the measure feel the bill in its present form reflects the constructive opinion of all substantial and ethical independent operators.

This proposed statute is of special interest due to recent decisions which tend to indicate crooked hole drilling subjects the offending operator to criminal and civil liability. The District Court of Appeals, in sustaining an indictment against two operators in the Mount Poso Field of Kern County, ruled that deviation from the vertical to such an extent that it traversed on adjoining property constituted possible grand theft if any oil or gas was produced. The Union Oil Co., Burnham Exploration Co. and Shell Oil Co. were recently awarded $130,000 damages against Mutual Oil Co. for producing oil and gas from beneath their properties in the Dominguez Field by a crooked hole. Union Oil Co. has also been awarded damages aggregating $22,557 against Reconstruction Oil Co. for producing oil and gas from beneath its Long Beach community lease in the Long Beach Field by means of slant drilling. The Superior Court ordered both holes plugged back but this has not yet been done as appeal has been taken. The wells have been taken off production.

Critical Conditions

Conditions in California are still rather unsettled due to prolongation of the seamen's strike and continuance of recently lowered price of gasoline schedules in Southern California. Members of the Pacific Coast Petroleum Agency have been working diligently for several weeks to eliminate disturbing factors in the distribution of gasoline and to formulate a constructive program that would meet with approval of the petroleum administrator. The marketing agency had certain inherent weaknesses that have to be corrected if provisions of the agreement are to be rigidly enforced and stabilization effected. Agency members have approved of a formula for future application and this will be submitted to independent refiners. If the plan meets with their approval it will be forwarded for approval by Secretary Ickes. This new program provides for extension of the Pacific Coast Petroleum Agency for another year with suitable limitations and the posting of a bond or guaranty that signatories to the agreement would conform with its provisions. This has been one of the weaknesses of the existing agreement as marketers had no recourse if any member violated the agreement except to institute court proceedings. Theoretically, this course seemed practicable but in reality did not mean a thing due to normal delays incident to prosecution of court action and the citing of technicalities brought up to delay rulings of the court. Unfortunately, a couple of the major marketers and two or three members of the refiners group continued to chisel prices. The bond to be put up by major marketers will go a long way toward eliminating this chiseling. Shell served notice it would not live up to any agreement that other marketers saw fit to violate with impunity and accordingly cut gasoline prices in Southern California 2 cents per gallon. As soon as secondary outlets and receiverships are put into line stabilization will become a reality.

Two committees have been working on the revision of the marketing agreement and seem to have reached a mutual understanding provided secondary outlets are brought under the same regulation affecting the parent group. The agency committee consists of R. D. Matthews of Union Oil Co.; W. H. Berg, Standard Oil Co.; R. T. Herndon, Texas Co., and B. I. Graves, Associated Oil Co. The refiners' committee consists of George Williams, Hancock Oil Co.; Todd Allison, Triangle Refining Co.; C. A. Johnson, Socal Refining Co.; DeWitt Know, Macmillan Petroleum Co., and C. W. Fourl of the Monarch Refining Co. One of the principal objections to the marketing agreement is that the agency pool has been absorbing too much gasoline from the refining group with the result that independent refiners have failed to maintain their relative position in retail markets. It has been found more advantageous to sell to the pool than continue to buck competition in the open market as the latter policy involves distribution costs. Major companies have not found the going any too easy in handling the pool's surplus gasoline which has been around 10,000,000 gallons monthly as the spread between tank wagon and retail prices has been insufficient to cover marketing costs.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	March 31		March 24			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	.....	.....	.....	4,017,604
Diesel and gas oil	.....	.....	.....	.....	527,098	700,489
Gasoline	77,376	11,054	195,947	27,992	1,586,452	1,347,139
Kerosene	161,273	23,039	80,902	11,557	468,421	348,665
Foreign exports—						
Crude oil	402,490	57,499	337,611	48,230	2,682,413	1,766,978
Fuel oil	295,704	42,243	411,612	58,802	4,354,232	3,133,775
Diesel and gas oil	199,774	28,539	42,332	6,047	918,134	1,054,345
Gasoline	113,671	16,224	207,360	29,623	1,148,053	1,001,749
Kerosene	18,101	2,586	32,574	4,653	265,476	234,893
Other finished oil	.....	.....	.....	.....	.....	3,539
Other unfinished oil	.....	....	4,967	710	42,064	34,363
Coastwise-domestic—						
Crude oil	.....	....	.....	.....	1,424,652	1,679,443
Fuel oil	83,291	13,327	.....	.....	2,211,963	3,250,422
Diesel and gas oil	.....	....	.....	.....	211,867	224,515
Gasoline	71,373	10,196	.....	.....	1,801,126	2,683,392
Kerosene	.....	.....	.....	.....	34,598	41,923

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	157,258	313,695
Gasoline	.. ..	.....	.....	.. ..	.....	72,625
Kerosene	.....	.....	.....	.....	149,715	197,498
Asphalt	.....	.....	.. ..	.....	71,325	.....
Lubricants	.....	.....	.....	.....	12,381	8,310
Foreign exports—						
Crude oil	17,048	2,435	.....	.....	550,129	517,100
Fuel oil	.....	.....	64,447	9,207	400,245	234,129
Diesel and gas oil	210,717	30,103	6,483	926	342,812	580,136
Gasoline	142,603	20,372	9,953	1,422	780,368	962,634
Kerosene	46,309	6,616	46,573	6,653	213,898	212,195
Lubricants	1,125	159	5,198	743	50,569	58,458
Other unfinished oil	.....	.....	.....	.....	.....	5,750
Coastwise-domestic—						
Fuel oil	.....	.....	.....	.....	747,591	884,677
Diesel and gas oil	.....	.....	.....	.....	79,662	37,029
Gasoline	88,221	12,603	.....	.....	860,893	1,038,638
Kerosene	.....	.....	.....	.....	10,149	36,716

It has been proposed that gasoline prices be increased 1 cent per gallon to permit marketers to offset this loss but this has not met with universal approval.

Playa Del Rey

The eastern extension of the Playa Del Rey Field appears to be running according to predictions if the data released on Pacific Drilling Corp's No. 1 Del Rey is correct because this well encountered top of the oil sand at 6,445 feet and top of the Nodular shale at 6,323 feet. This indicates the well is rather far out on the plunge of the Del Rey structure and the depth indicates it is well within contours predicated on productive wells finished in the older section. Pacific Drilling Corp. has started to run casing preparatory to making a production test and it is likely this well will be put on production within 10 days. This well, if all estimates are correct, should develop commercial production but it may definitely define the productive limits. This is the most important well in this field at present due to its location on the structure and the data is of paramount importance. If it results in commercial production, the productive area in the new extension will extend beyond Manchester Avenue which has been taken as an outside location. Operators are holding back on data to retard future drilling as recent orders have cut down the period of the flow test.

Huntington Beach

Standard Oil Co. added a well to its producers in the Huntington Beach Field of Los Angeles Basin this week by completing No. 72 on Los Angeles Investment lease No. 1. It was brought in flowing 1,090 bbls. of 23.4 gravity oil and 8,900,000 feet of gas per day from 4,325 feet. Associated Oil Co.'s No. 52 on Vickers lease No. 1 failed to come up to expectations as it showed a rather high cut. It was brought in on a compressor doing 386 bbls. of 23.4 gravity oil cutting 40 per cent water from 3,497 feet. It is showing an excellent gas pressure on both tubing and casing and may improve if the water is shut off. In the Long Beach Field of Los Angeles Basin, Commercial Drilling Co. completed No. 2 Signal doing 288 bbls. of clean 28.9 gravity oil per day from 5,761 feet and National Drilling Co. recompleted No. 2 Seeple pumping 247 bbls. of relatively clean 24.8 gravity oil per day from 3,593 feet. The latter well was recompleted after the hole had been plugged back from 4,580 feet.

Texas Co. has concluded a deal with H. T. Coffin and will begin immediate exploration in the Montebello Field of Los Angeles Basin. Texas Co.'s new acreage is in the extreme eastern end where Universal Consolidated Oil Co. has been endeavoring to discover deep production. Universal Consolidated has already started preparations to redrill and deepen No. 2 Nutt which failed to show substantial production. This well, although higher structurally than adjacent wells, was good for only a small quantity of oil daily upon completion. The importance of the accumulation found by Universal Consolidated in the eastern end is still a matter of conjecture but the outcome of deepening operations on No. 2 Nutt and new work to be undertaken by Texas Co. should definitely determine the future status. The productivity of the new section of the Montebello Field has been a matter of considerable interest but none of the major companies has found sufficient data to venture a guess as to just how important this section is destined to be. Texas Co. has had several geophysical crews going over the ground and may have found something of importance although this remains to be seen.

Mountain View

The Mountain View Field of Kern County is still a rather live spot in drilling operations although there is tangible evidence work is slowing down somewhat, rather to be expected because the undrilled potentially productive acreage is getting less with each week. Hancock Oil Co. has completed No. 5 Miller flowing 5,760 bbls. of clean 31.5 gravity oil per day from 5,360 feet. This well, in accordance with recent rules, will be shut in until June 16 in order that it may make up for the oil overproduced during the production test. The curtailment committee has ruled new wells must rank after wells previously finished. General Petroleum's No. 3 Brantley proved to be good for 2,790 bbls. of relatively clean 32.0 gravity oil upon completion at 5,560 feet. Mohawk's No. 3 McKeehan was good for only 145 bbls. of 24.9 gravity oil per day from 5,529 feet. Barnsdall has filed an abandonment notice on No. 1 Young at 8,476 feet as this deep test failed to show anything. Union Oil Co. is still drilling ahead in No. 1-B Kernco but this hole is only 7,200 feet and still has some distance to go before it can be classed as dry.

In the Mount Poso Field of Kern County, Union Oil Co. succeeded in finishing No. 20 S. & M. pumping 1,100 bbls. of clean 16.4 gravity oil per day from 1,720 feet. Shell Oil Co. added a well in this field as No. 8 Vedder-Rall was brought in pumping 930 bbls. of relatively clean 16.2 gravity oil per day from 1,975 feet. This field, based on new locations and scheduled work, will be rather active for several months as both Union and Shell have a number of undrilled locations. Over in the Round Mountain Field, Honolulu Oil Corp. has completed No. 55 in Section 18-28-29 doing 1,188 bbls. of 17.3 gravity per day from 2,030 feet.

Kettleman Hills

The Kettleman North Dome Association and Standard Oil Co. are expected to drill several extension wells in the North Dome during the year. Kenda has received permission to drill out in the middle of Section 24-21-16, but this may be retarded for a month or so. This well is in the Huffman area just inside the blue line fixed as the outer limits of production in October, 1933. Kenda has completed No. 43-20-J doing 1,591 bbls. of 36.1 gravity oil and 1,800,000 feet of gas per day from 8,191 feet.

In the Midway-Sunset Field of Kern County, Honolulu Oil Corp. finished an excellent well when No. 43 in Section 14-32-24 was brought in flowing 1,287 bbls. of 27.6 gravity oil and 1,094,000 feet of gas per day from 3,135 feet. In the Fruitvale Field of Kern County, Western Gulf finished No. 17-B with an initial daily production of 149 bbls. of 21.4 gravity oil from 3,911 feet. Over in the Goleta gas field of Santa Barbara County, Shell Oil Co. finished No. 1 Bishop as a gas well doing 15,000,000 feet of gas per day after plugging the hole back from 6,508 feet to 4,170 feet. This well failed to find an oil sand and the company plugged the hole back to where a good gas zone had been found at 4,170 feet. General Petroleum Corp. finished a new tideland well in the Rincon Field of Ventura County, No. 4 Ferguson, doing 420 bbls. of 28.2 gravity oil per day. Drilling operations were concluded at 3,358 feet and a 9-inch water string landed and cemented at 3,299 feet.

ART WALKER DIES

A. J. (Art) Walker, 52, active in the oil business in Oklahoma and East Texas for 30 years, was killed instantly in an automobile wreck at Longview, Tex. He came from Pennsylvania in 1905 to join S. J. Emery & Sons. Later he was in the Indian service, oil division, and superintendent of Westheimer & Daube, Anderson-Pritchard, Sunray, and Sells Petroleum Co.

HOMER M. AUSTIN DIES

Homer M. Austin, 78, former head of the inventory department of the Gypsy Oil Co. and a government surveyor in Indian Territory in 1873, died last week at his home in Tulsa. He was a native of Ripley, Ohio.

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
Macrate, A. N., No. 1 Athens, Los Angeles Co.	18- 3-13	6,462	water witch
Republic Pet., No. 1 Lawndale, Los Angeles Co.	18- 3-14	4,871	sd. sh. drlg.
Associated Oil Co., No. 2 Inglewood Deep, Los Angeles Co.	7- 2-14	3,497	P.B. 3,300
Standard Oil Co., No. 4 Inglewood Deep, Los Angeles Co...	17- 2-14	4,090	form. wet
Standard Oil Co., No. 5 Inglewood Deep, Los Angeles Co...	17- 2-14	6,284	suspended
Ohio Oil Co., No. 16 Del Rey, Los Angeles Co.	28- 2-15	3,855	cleaning out
Bel-Mar Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	1,093	sd. sh. drlg.
Pacific Drlg. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,474	O.S. cmtd.
Stockburger, Roy, No. 1 Del Rey, Los Angeles Co.	27- 2-15	3,411	fish. D.P.
Fouri, C. W., No. 3 Del Rey, Los Angeles Co.	27- 2-15	6,411	redrlg. 6,175
Ritelube Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	5,981	sd. sh. drlg.
Mathews Pet. Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	5,460	cleaning out
Birch Royer Oil Co., No. 1 Del Rey, Los Angeles Co.	34- 2-14	....	rigging up
Lor-Mar Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,000	sd. sh. drlg.
Joyce Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	rigging up
Union Oil Co., No. 8 Del Rey, Los Angeles Co.	27- 2-15	3,991	sd. sh. drlg.
Union Oil Co., No. 10 Del Rey, Los Angeles Co.	27- 2-15	5,171	sd. sh. drlg.
Big Ben Oil Co., No. 1 Del Rey, Los Angeles Co.	27- 2-15	6,758	redrlg. 1,991
Doyle Pet. Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,800	sd. sh. drlg.
Severns Drlg. Co., No. 1 Torrance, Los Angeles Co.	24- 4-14	3,780	cleaning out
Vanco Dev. Co., No. 1 Artesia, Los Angeles Co.	25- 3-12	1,431	sd. sh. drlg.
Monarch Oil Corp., No. 1 Topanga, Los Angeles Co.	5- 1-16	....	rig, rained out
Frontier Oil Co., No. 1 Pico, Los Angeles Co.	7- 2-11	3,074	sd. sh. drlg.
Shively, N. O., No. 1 Puente Hills, Los Angeles Co.	23- 2-10	3,190	swabbing
Pressel & Tull, No. 1 Puente Hills, Los Angeles Co.	30- 2- 9	4,291	sd. sh. drlg.
International Dev. Co., No. 1 Saugus, Los Angeles Co.	34- 5-16	4,335	P.B. 2,000
Platt & Collins, No. 1 Costa Mesa, Orange Co.	14- 6-10	2,560	rigging up
Wilshire Oil Co., No. 1 Newport, Orange Co.	28- 6-10	....	location
Bartholomae Oil Co., No. 2 East Coyote, Orange Co.	22- 3-10	3,101	sd. sh. drlg.
San Diego Pet. Co., No. 1 Chula Vista, San Diego Co.	32-18- 2	6,344	suspended
Stephens, J. T., No. 1 Chula Vista, San Diego Co.	27-18- 2	1,451	hd. sd. drlg.
Edmonds, E. A., No. 1 Trustee, San Diego Co.	29-15- 3	2,431	hd. sd. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5- 5	1,095	hd. sh. drlg.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S. T. R.	Depth	Status—
Shell Oil Co., No. 4 Capitan, Santa Barbara Co.	5- 4-30	2,498	O. S. drlg.
Freeman, M. J., No. 1 Purisima, Santa Barbara Co.	11- 7-33	....	rigging up
Fairview Oil Co., No. 1 Purisima, Santa Barbara Co.	18- 7-34	3,060	hd. sh. drlg.
Casmite Co., No. 1 Casmalia, Santa Barbara Co.	13- 9-35	896	sd. sh. drlg.
Advance Pet. Co., No. 1 Naples, Santa Barbara Co.	7- 4-29	6,100	sd. sh. drlg.
Barnsdall-Rio Grande, No. 10-88 Elwood, Santa Barbara.	tideland	3,540	Sespe, drlg.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara Co.	15- 4-29	3,846	cmtd. 3,832
East Elwood Pet. Co., No. 1 Elwood, Santa Barbara Co.	14- 4-29	3,767	P.B. 3,650
Sheli Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	6,508	dry gas well
West Elwood Oil Co., No. 1 Goleta, Santa Barbara Co.	9- 4-28	3,664	suspended
General Pet. Co., No. 4 Rincon, Ventura Co.	tideland	3,358	test W.S.O.
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	8,116	fish tubing
Union Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	....	bldg. rig
Goldray Oil Co., No. 1 Rincon, Ventura Co.	20- 4-24	....	port. rig
Oil Ridge Oil Co., No. 1 Ventura, Ventura Co.	1- 4-19	1,633	cleaning out
El Rancho Oil Co., No. 1 South Mountain, Ventura Co.	9- 3-19	401	cleaning out
The Texas Co., No. 128 South Mountain, Ventura Co.	4- 3-19	6,142	sd. sh. drlg.
Bolsa Chica Oil Co., No. 2 Piru, Ventura Co.	4- 4-18	1,497	hd. sh. drlg.
Continental Oil Co., No. 1 Ojai, Ventura Co.	13- 4-23	2,151	hd. sd. drlg.
High Mesa Oil Co., No. 1 Ojai, Ventura Co.	16- 4-22	....	port. outfit
Prop. Service Corp., No. 1 Lloyd, Ventura Co.	24- 3-23	7,110	cleaning out
Continental Oil Co., No. 4 San Miguelito, Ventura Co.	23- 3-24	1,421	sd. sh. drlg.
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	3,328	fish. D.P.
Continental Oil Co., No. 1 McDonald, Kern Co.	7-28-20	1,071	sd. sh. drlg.
General Pet., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 1-A North Belridge, Kern Co.	36-27-20	8,450	hd. sh. drlg.
Standard Oil Co., No. 2 North Belridge, Kern Co.	36-27-20	6,271	sd. sh. drlg.
Belridge Oil Co., No. 32-35, North Belridge, Kern Co.	35-27-20	2,981	sd. sh. drlg.
Standard Oil Co., No. 1 Delano, Kern Co.	1-26-22	2,455	gas, shut in
Standard Oil Co., No. 2 Delano, Kern Co.	1-25-22	2,481	sd. sh. drlg.
Standard Oil Co., No. 3 Delano, Kern Co.	12-25-22	....	location
Trico Oil & Gas Co., No. 1 Alpaugh, Kern Co.	3-25-23	2,525	gas well
Trico Oil & Gas Co., No. 3 Alpaugh, Kings Co.	36-24-22	3,798	sd. sh. drlg.
Trico Oil & Gas Co., No. 4 Alpaugh, Kern Co.	3-25-23	....	rig, suspended
Kern River Oilfields, No. 2 Kern Front, Kern Co.	25-28-27	....	rigging up
Golden Bear Oil Co., No. 1 Kern Front, Kern Co.	32-27-27	3,200	sd. sh. drlg.
Hancock Oil Co., No. 5 Mountain View, Kern Co.	14-30-28	5,353	flow. 5,760 b.d.
Associated Oil Co., No. 1 Mountain View, Kern Co.	3-31-29	5,501	dry, abd.
Shell Oil Co., No. 1 Mountain View, Kern Co.	32-30-29	5,392	sd. sh. drlg.
C. C. M. Oil Co., No. 1 Mountain View, Kern Co.	11-30-28	102	sd. drlg.
Union Oil Co., No. 5 Mountain View, Kern Co.	15-30-28	5,474	redrlg. 5,450
Union Oil Co., No. 6 Mountain View, Kern Co.	9-30-28	7,176	sd. sh. drlg.
General Petroleum, No. 3 Mountain View, Kern Co.	14-30-28	5,560	O.S. drlg.
Vesta Pet. Co., No. 1 Mountain View, Kern Co.	19-30-29	....	rigging up
Barnsdall, No. 3 Mountain View Deep, Kern Co.	31-30-29	8,476	dry, abd.
Hogan Pet., No. 7 Mountain View, Kern Co.	32-30-29	3,180	sd. sh. drlg.
Hogan Pet., No. 8 Mountain View, Kern Co.	29-30-29	5,592	sd. sh. drlg.
Jergins Trust, No. 5 Mountain View, Kern Co.	24-30-28	4,741	sd. sh. drlg.
Standard Oil Co., No. 7 Mountain View, Kern Co.	13-30-28	....	bldg. rig
Ohio Oil Co., No. 1 Mountain View, Kern Co.	33-30-29	5,999	suspended
Mountain View Oil Co., No. 1 Mountain View, Kern Co.	25-30-28	5,509	sd. sh. drlg.
Gilmore Oil Co., No. 1 Edison, Kern Co.	23-30-29	2,048	suspended
Jergins Trust, No. 6 Edison, Kern Co.	14-30-29	1,600	cmtd. 1,150
Jergins Trust, No. 6 Edison, Kern Co.	13-30-29	3,275	hd. sd. drlg.
Consd. Crude Oil Co., No. 1 Edison, Kern Co.	17-30-29	5,567	suspended
Shell Oil Co., No. 5 Edison, Kern Co.	21-30-29	4,400	br. sh. drlg.
Shell Oil Co., No. 6 Edison, Kern Co.	14-30-29	3,159	will P.B.
Major Oil Co., No. 1 Edison, Kern Co.	18-30-29	316	sd. drlg.
Chaulk Oil Co., No. 1 Edison, Kern Co.	5-30-29	3,804	O.S. drlg.
Nelco Oil Co., No. 1 Edison, Kern Co.	5-30-29	....	rig, suspended
Mohawk Oil Co., No. 1 Edison, Kern Co.	2-30-29	1,870	sd. sh. drlg.
Foster, Inc., No. 1 Edison, Kern Co.	8-30-29	5,003	suspended
Berry Oil Co., No. 1 Edison, Kern Co.	25-30-29	1,378	dry, abd.
General Pet., No. 4 Edison, Kern Co.	14-30-29	3,997	sd. sh. drlg.
General Pet., No. 5 Edison, Kern Co.	15-30-29	....	rig, suspended
Petroleum Drilling Co., No. 1 Edison, Kern Co.	22-29-29	987	suspended
Appling, C. E., No. 1 Edison, Kern Co.	4-30-29	1,297	sd. sh. drlg.
Signal Oil & Gas Co., No. 1 Edison, Kern Co.	31-29-30	2,258	suspended
Signal Oil & Gas Co., No. 2 Edison, Kern Co.	31-29-30	497	bailing
Signal Oil & Gas Co., No. 3 Edison, Kern Co.	36-29-29	518	sd. sh. drlg.
General Pet., No. 1 Arvin, Kern Co.	1-32-29	121	sd. drlg.
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	1,654	suspended
Hall-Baker Co., No. 1 Arvin, Kern Co.	16-31-30	1,276	P.B. 1,127
Sea Cliff Oil Co., No. 1 Greenfield, Kern Co.	7-31-28	4,675	sd. sh. drlg.
Standard Oil Co., No. 1 Semi-Tropic, Kern Co.	8-27-23	3,200	gas, shut in
Seeple, J. O., No. 1 Elk Hills, Kern Co.	5-30-24	3,731	suspended
The Texas Co., No. 1 Temblor, Kern Co.	29-29-21	4,604	dry, abd.
Shell Oil Co., No. 1 Buena Vista, Kern Co.	9-32-25	5,451	hd. sh. drlg.
Reserve Oil & Gas Co., No. 1 Tejon, Kern Co.	2-10-19	3,708	suspended
Reserve Oil & Gas Co., No. 2 Tejon, Kern Co.	12-10-19	1,931	hd. sh. drlg.
Badger Oil Co., No. 1 Tejon, Kern Co.	31-11-19	6,248	suspended
Russ Oil Synd., No. 1 Dos Palos, Fresno Co.	28-12-11	5,110	suspended
Standard Oil Co., No. 1 Coalinga, Fresno Co.	13-20-14	....	rigging up
Wellington Oil Co., No. 1 Coalinga, Fresno Co.	14-20-14	671	sd. sh. drlg.
Milham Expl. Co., No. 1 Ora Loma, Fresno Co.	12-12-11	912	sd. sh. drlg.
Union Oil Co., No. 1 Lillis-Kettleman, Fresno Co.	24-21-16	10,944	redrlg. 7,060
K.N.D.A., No. 56 Kettleman, Kings Co.	8-22-16	10,154	redrlg. 9,901
Standard, No. 2 Kettleman Middle, Kings Co.	29-22-19	5,500	sd. sh. drlg.
Continental Oil Co., No. 1 Kettleman-South, Kern Co.	7-25-20	4,920	hd. sh. drlg.
Farrel Pet., well No. 1, San Luis Obispo Co.	18-31-12	1,432	suspended
Willett Oil Co., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	cmtd. 2,930
Schuster, C. R., No. 1 Tulare, Tulare Co.	27-22-23	....	rig, suspended
Commonwealth Consd. Gas Co., No. 1 Tulare Lake, Kings	21-22-20	2,490	gas well
Commonwealth Consd. Gas Co., No. 2 Tulare Lake, Kings	21-22-20	....	rig, suspended
General Pet., No. 1 Devil's Den, Kings Co.	20-24-18	1,098	br. sh. drlg.
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	35-16- 1	7,013	suspended
Amerada Pet., No. 1 F.L.D., San Joaquin Co.	15- 2- 5	1,262	test W.S.O.
Pure Oil Co., No. 1 Chowchilla, Madera Co.	7-10-14	8,402	gas well
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24- 2	3,652	gr. sd. drlg.
The Texas Co., No. 1 Petrolia, Humboldt Co.	1- 3- 2	5,402	sd. sh. drlg.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	....	bldg. rig

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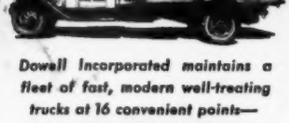

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Southwest Colorado Wildcat Reports Showing; Twelve Locations in Southeast New Mexico

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Apr. 15.—Four completions and 12 new locations were reported in southeastern New Mexico. The Capitan Oil Co.'s No. 1 Turner, formerly Noble's No. 1 Townsite, extended the Hobbs Pool one unit east with an initial production of 19,152 bbls. and 18,000,000 feet of gas. Shell Petroleum Corp.'s No. 2-D State, which extended Hobbs one unit northwest, made 8,473 bbls. initial. Atlantic Oil Producing Co.'s No. 1-C State, Eunice Pool, was completed for 325 bbls. Repollo Oil Co.'s No. 2 Gloyd was completed in the Jal Pool for 675 bbls. Three new locations are in Hobbs, three in Eunice area, three in Jal area and two in Eddy County. Shell Petroleum Corp. made an offset location to the discovery in the Monument district. R. H. Henderson and others' No. 1 Langley, 2½ miles east of production in Jal Pool, had a gas blowout.

A wildcat in the McElmo Canon district, southwestern corner of Colorado, had 700 feet of 47 gravity oil in the hole through 300 feet of cavings and shut down for control head before going deeper. Dust storms held up the Trojan well at Lamar.

Ohio Oil Co. and California Co.'s deep test on Big Medicine Bow, Carbon County, Wyoming, showed for 36,000,000 feet of gas in the upper Sundance on a drill stem test and looks like an important discovery.

Five new locations were reported in the Cut Bank Field in Montana and operations are being resumed in the Devon district in Toole County. There were no completions in Montana.

One new operation was reported in Washington County, Utah.

NEW MEXICO

Total production allocated to New Mexico for the first half of April is 52,800 bbls. daily, 49,700 bbls. federal allocation and 3,100 allocated by the state committee to absorb shortage caused by marginal wells. This total is the same as in the last half of March. Distribution outside of Lea County is as follows: Artesia, 2,350 bbls.; Hogback, 220; Rattlesnake, 750, Table Mesa, 145; Aztec-Bloomfield, 15; total, 3,480 bbls. This is a decrease of 750 bbls. for Artesia and increases of 20 bbls. daily for Hogback, 125 bbls. for Rattlesnake and 35 bbls. for Table Mesa.

Allocation to Lea County marginal units is 2,042 bbls. daily from 5 units in the Cooper Field, 5 in Eunice, 1 in Hobbs, 18 in Jal, 3 in Lea, and 1 in Lea North Extension, a total of 33 units. There are 316 nonmarginal wells in Lea County, of which 208 are in the Hobbs Pool. Outside of Hobbs the top allowance per well per day is 150 bbls.

Lea County allocation by fields, including marginal and nonmarginal wells, follows:

	Wells	Bbls.
Cooper	39	5,252
Eunice	49	7,265
Jal	39	4,313
Lea	11	1,386
Lea Extension	1	19
Hobbs	209	31,085
Total	349	49,320

Hobbs Pool potential April 1 was 2,227,747 bbls. daily from 209 units. One is given a special allowance on account of water and 40 are classed as water units. There was an increase of two in water units.

Hobbs Area

Two completions and three new locations were reported in Hobbs Pool. The Capitan Oil Co.'s No. 1 Turner, C W half NW SE Section 34-18-38, formerly carried as Noble and others' No. 1 Townsite, was completed at 4,215 feet for a potential of 19,152 bbls. a day and 18,000,000 feet of gas on an open flow test. The well is in the townsite of Hobbs and marks a slight extension east. Capitan company's No. 1 Turner found the pay at 4,140-4,215 feet; elevation is 3,626 feet. It was acidized twice, first with 2,000 gallons and then with 4,000 gallons.

Shell Petroleum Corp.'s No. 2-D State, C NE NW Section 24-18-37, farthest northwest in the pool, proved one additional unit. It was completed at 4,260 feet and flowed 8,473 bbls. of oil and 17 per cent additional water and basic sediment, with 9,000,000 feet of gas the first 24 hours. The pay was at 4,154-4,260 feet; elevation 3,678 feet. The 7-inch is at 4,010 feet and 3-inch tubing was run to 4,255 feet.

The three locations are in the immediate vicinity of the two completions. Noble & Co.'s No. 4-C State, 1,315 feet from the south and west lines of Section 24-18-37; Gypsy Oil Co.'s No. 4 Graham-State, C NW NE Section 24-18-37, and Capitan Oil Co.'s No. 2 Turner, C W half SW SE Section 34-18-38, which is building rig.

Noble & Co.'s No. 3-C State, NE NW SW Section 24-18-37, which will prove up another unit northwest, is a near completion at 4,200 feet, total depth. It found the pay at 4,103-4,200 feet. On the first test it flowed 95 bbls. an hour hrough 2½-inch tubing at 4,192 feet. Treated with 2,000 gallons of acid and flowing 129 bbls. an hour, it was retreated with 4,000 gallons and flowed 150 bbls. the first hour through a 3-inch tubing. It is still testing.

Shell Petroleum Corp.'s No. 1 Turner. SW cor. NE Section 34-18-38, north offset to the 19,000-bbl. well completed by Capitan company, is drilling at 3,826 feet and had an oil show at 3,317-24 feet. Continental Oil Co.'s No. 3 Grimes, SW NW SE Section 28-18-38, cemented 7⅝-inch on bottom at 1,640 feet, in anhydrite, with 300 sacks, and is waiting. National Securities Oil Co.'s No. 1 Linam, NE SE SW Section 33-18-37, is drilling at 4,470 feet in lime.

Monument Area

Another location was started in the Monument area, 7 miles north of Eunice Pool, where Amerada Petroleum Corp. recently brought in the discovery well. Shell Petroleum Corp.'s No. 1-E State, C SE SE Section 35-19-36, is a diagonal offset on the northwest to Amerada's No. 1-D State, C NW NW Section 1-20-36, completed at 3,954 feet for 1,801 bbls. the first 12 hours. Amerada's No. 1-F State, C SW SW Section 36-19-36, a north offset to the discovery, is rigging up rotary.

Cooper Area

There were no new locations or completions in the Cooper Pool, but several are near completion. Phillips Petroleum Co.'s No. 13 Woolworth, C SW NW Section 26-24-36, was drilled to 3,468 feet and in a drill stem test at 3,410-68 feet flowed at the rate of 150 bbls. an hour with 3,700,000 feet of gas. The 6⅝-inch was then cemented at 3,420 feet with 400 sacks. Same company's No. 14 Woolworth, C NW SW Section 26-24-36, was drilled to 3,465 feet and in a drill stem test at 3,440-64 feet showed for 30 bbls. an hour with 1,700,000 feet of gas. It is running 6⅝-inch. Same company's No. 15 Woolworth, C SE NE Section 27-24-36, is drilling at 3,018 feet in lime.

Texas Co.'s No. 1-B Ogg, C SE SE Section 34-24-36, cemented 12½-inch at 162 feet with 175 sacks and is drilling at 1,275 feet in shale and shells, and its No. 2-B Ogg, C SE NE Section 34-24-36, began spudding March 30, cemented 12½-inch at 161 feet with 175 sacks and is drilling at 283 feet in red rock. Same company's No. 3-B Ogg, C NE NE Section 34-24-36, is still a location, and its No. 6-A Ogg, C SW SE Section 35-24-36, is fishing for three cones at 3,250 feet, in lime.

General Crude Oil Co.'s No. 1 Woolworth, C NW SE Section 26-24-36, is rigging up rotary, and Amerada Petroleum Corp.'s No. 1 Isabel, C SE NE Section 15-24-36, is drilling at 1,440 feet in anhydrite.

Humble Oil & Refining Co.'s No. 2 Coats, NW NE Section 10-24-36, drilled as a relief well for No. 1 Coats, 400 feet to the east, is pumping water into No. 1 Coats at the rate of 300 bbls. an hour in an attempt to kill the gas. Simms Oil Co.'s No. 1 Woolworth, C SE NE Section 35-24-36, cemented whipstock at 2,491 feet and is drilling by at 2,574 feet.

Empire Gas & Fuel Co.'s No. 2 Everett, C SE SW Section 35-24-36, plugged back from 3,490 fget to 3,435 feet and swabbed and flowed 100 bbls. of oil and 150 bbls. of water daily. It is acidizing with 1,000 gallons. Same company's No. 3 Everett, C NW SW Section 35-24-36, is drilling at 3,490 feet in lime and flowing 10 bbls. an hour while drilling. There were increases in oil and gas at 3,450, 3,460 and 3,480-84 feet. Stanolind Oil & Gas Co.'s No. 4-A Meyers, C NE SW Section 22-24-36, ran a packer on 3-inch to 3,575 feet with a perforated joint above. It is flowing 1,200 bbls. of fluid a day of which 97 per cent is water.

Eunice Area

One completion and three locations were reported in Eunice area. Atlantic Oil Producing Co.'s No. 1-C State, C SW SE Section 5-21-36, half a mile to the north of the nearest producer, was completed at 3,894 feet from the pay at 3,825-94 feet. It was shot at 3,812-94 feet with 270 quarts and flowed through 3-inch at 3,884 feet at the rate of 325 bbls. a day with 2,500,000 feet of gas. Elevation is 3,578 feet.

Atlantic made a location for No. 1-E State, C NE SW Section 5-21-36, one-third of a mile northwest of No. 1-E State. Amerada Petroleum Corp.'s No. 1 Houston, C SE NE Section 7-21-36, is a location half a mile north of Gypsy Oil Co.'s No. 1 Houston and the same distance west of the nearest producer.

Ohio Oil Co.'s No. 3 State-McDonald, C NE SW Section 16-22-36, is 5 miles southeast of the Eunice development and in line with two wells drilled by the company on its large block. It is two-thirds of a mile west of No. 1 State-McDonald, completed several years ago as a small oil well and nearly 2 miles west of No. 2 State-McDonald, completed a few months ago as a gas well, but treated and made into a 100-bbl. oil well.

Tide Water Oil Co.'s No. 4 State-Foster, C NE NE Section 8-21-36, had a gas show at 2,833-42 feet and is drilling at 3,282 feet in lime. Shell Petroleum Corp.'s No. 1-A State, C SE NE Section 12-21-35, is cleaning out after a shot at 3,860-3,910 feet. Skelly Oil Co.'s No. 2-B State, C SW NW Section 16-21-36, is drilling at 3,345 feet in lime, and Gypsy Oil Co.'s No. 4 Bell-Ramsey, C NW NW Section 9-21-36, is drilling at 3,822 feet in lime. Humble Oil & Refining Co.'s No. 3-B State, C NW NE Section 29-21-36, began spudding March 28, set 12½-inch at 79

Crude Oil Show in Watson Structure in the Southern Alberta Foothills

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Apr. 13.—On the Watson structure, in the southern Alberta foothills north and west of Lundbreck, Mar Jon Oil Co.'s No. 3, LSD 3, Section 4-10-2w5, is deepening below 1,270 feet after getting a strong crude oil show at 1,110 feet. The crude was met in the Benton shales and is a light green product, apparently of paraffin base. The Watson structure lies north and west of Lundbreck. Geologists have mapped a structure about 20 miles long with an undetermined width. The fold is somewhat gentler than in the Turner Valley Field, and the formations apparently rise toward the south. Mar Jon's No. 3 is the most northerly of three active tests. South and west, Mar Jon-Maxmont's No. 4, LSD 10, Section 20-9-2w5, is drilling below 1,430 feet with shows of gas.

Some 15,000 acres on structure are reported held by the Mar Jon Oil Co. of Vancouver. At one time Imperial Oil, Ltd., held extensive acreage, but allowed it to lapse. Last fall Maxmont Syndicate of Vancouver subleased acreage from the Mar Jon company. Inland Petroleum, Ltd. of Coleman, Alberta, which has a producing well in the Montana end of the Red Coulee Field, holds several leases on the Watson structure. Raven Oils' No. 1 is being drilled by Calgary interests.

Tests in the Foothills

On the Highwood-Sinclair structure, south of Turner Valley, Canadian Royalties' No. 1 Banner, LSD 6, Section 34-17-3w5, is hauling casing preparatory to resuming from 1,018 feet. It got fair shows of gas and light crude at 905 feet, in an horizon apparently corresponding to the McDougall-Segur sand of the Turner Valley Field.

E. B. Clarke, representing Vancouver and Seattle interests, this week inspected the Moose Dome structure where his backers are planning development work. The structure is north and west of the North Turner Valley Field, and was tested before 1930 by Moose Oils' No. 1, which started in the Paleozoic lime and entered the Devonian at 550 feet, getting a fair oil show at 2,220 feet and numerous gas shows between 490 and 2,815 feet. Drilling was stopped at 2,834 feet with tools and wire line lost in the hole. The Moose Dome is the only structure in the foothills where the Paleozoic lime, the producing horizon of the Turner

(Continued on Page 86)

feet with 175 sacks, and is drilling at 1,060 feet in red rock.

Continental Oil Co.'s No. 20-C-4 State, C SE SW Section 20-21-36, plugged back from 2,952 feet to 2,500 feet to straighten crooked hole, and its No. 18-A-2 Meyers, C NW SE Section 18-21-36, is drilling at 3,660 feet in lime. Same company's No. 2-C-3 State, C SE NW Section 20-21-36, is drilling at 3,734 feet in anhydrite and lime. Continental's No. 9-B-2 Meyers, C SE NW Section 9-21-36, is a near completion. A drill stem test at 3,675-3,725 feet showed 600,000 feet of dry gas. The 5½-inch was run to 3,625 feet and cemented with 300 sacks. Same company's No. 8-B-2 Meyers, C NE NW Section 8-21-36, is drilling at 2,954 feet in lime.

Southeast of Eunice

Rowan Drilling Co.'s No. 1 Elliott, C NE SW Section 17-22-37, carried last week as N. G. Penrose and others, a location, is rigging up rotary.

Jal Area

Repollo Oil Co.'s No. 2 Gloyd, NW cor. SE Section 12-25-36, was completed at 3,325 feet and flowed at the rate of 675 bbls. daily in a 21-hour test through the 2½-inch tubing at 3,320 feet. It showed 70 per cent water and basic sediment. It topped the pay at 3,305 feet and the elevation is 3,179 feet. It was acidized with 2,000 gallons.

Two new locations are offsets to the Repollo's well, Continental Oil Co.'s No. 12-A-4 Wells, SW cor. NE Section 12-25-36, and its No. 12-A-3 Wells, SE cor. NW Section 12-25-36. The other location is Amerada Petroleum Corp.'s No. 1 Dyer, C SW NE Section 31-25-37, half a mile north of the Empire's No. 1 Dyer.

A semiwildcat attracting attention is R. H. Henderson and others' No. 1 Langley, C SE SE Section 8-25-37, 2½ miles east of production, which had a gas blowout in brown lime at 2,875 feet. It lost two strings of tools and is installing a rotary in an effort to drill ahead. The gas gauged 2,500,000 feet with a rock pressure of 450 pounds with two strings of tools in the hole.

Trinity Drilling Co.'s No. 1 Sholes, C NE NE Section 24-25-36, is a near completion at 3,274 feet, total depth. It found the pay at 3,258-74 feet and is flowing into the pits through 2½-inch at 3,270 feet, but was not gauged. Southern Petroleum Exploration Co.'s No. 1-B Ascarate, C NE SW Section 24-25-36, made a drill stem test at 3,150-3,234 feet, latter total depth, and showed 200 feet of mud with oil stains. It is preparing to drill ahead. Hammond, Inc.'s No. 1-B Sholes, SE cor. NW Section 13-25-36, is drilling at 2,924 feet in lime, and its No. 2-B Sholes, NE cor. NW Section 13-25-36, is shut down for water at 1,795 feet, in salt. Texas Co.'s No. 1 Parker, C SW SW Section 29-26-37, showed for 1,500,000 feet of dry gas in a drill stem test at 2,912-3,011 feet and cemented the 7-inch on bottom at 3,011 feet with 200 sacks.

Maljamar Area

Maljamar Oil & Gas Co.'s No. 1 Miller, C NW SW Section 23-17-32, had a show of oil at 2,440-45 feet and is drilling at 2,520 feet in anhydrite.

Nadine Area

Repollo Oil Co.'s No. 1 Arnold, SW NW SE Section 11-20-38, is shut down for repairs at 3,017 feet in anhydrite and lime after cementing 10¾-inch at 2,884 feet with 250 sacks.

San Simion Area

Humble Oil & Refining Co.'s No. 1 Saunders, C NE NE Section 4-22-34, topped the brown lime at 3,790 feet, set 8¼-inch at 3,800 feet and is drilling at 3,937 feet in lime. Elevation is 3,641 feet.

Eddy County

Barnsdall Oil Corp.'s No. 2 Dodd, C NE SE Section 22-17-29, Jackson district, is spudding at 20 feet. Premier Petroleum Corp.'s No. 1-E Dexter, C NW NE Section 20-17-30, Maljamar area, is drilling at 870 feet in salt, and Grayburg Oil Co.'s No. 6 Burch, C SE NE Section 19-17-30, is drilling at 2,900 feet in lime. Getty Oil Co.'s No. 7 Dooley, SW cor. NW Section 24-20-29, Getty Pool, is drilling at 2,700 feet in lime. Coronada Exploration Co.'s No. 1 Anderson, C NE NW Section 13-20-23, Seven Rivers district, is fishing for the 8¼-inch at 1,135 feet. Fred Brainard's No. 1 fee, NW NE Section 2-17-28, Artesia district, is drilling at 1,045 feet in anhydrite.

Two new locations reported in Eddy County, but not confirmed are Stovall & Marshall's No. 2 Rose, Section 28-24-27, and George Etz and others' No. 1 State, Section 36-20-28.

Lea Area

Anderson & Prichard's No. 1 Fisher, C SE NE Section 8-20-35, sidetracked bit to 825 feet, total depth, and is attempting to lower the 8¼-inch below the bit at 805 feet. Texas Co.'s No. 1 Cole, C NE NE Section 35-19-33, is drilling at 2,770 feet in salt.

Otero County

Flynn, Welch & Yates' No. 1 Donahue, C NW NE Section 28-24-15, which moved some materials to location in 1929, but temporarily abandoned, has been renewed as a location.

Chaves County

Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is drilling at 1,994 feet.

San Juan County

Nick Spatter's No. 1 fee, C NE SW Section 32-31-11w, Aztec district, is waiting for 8¼-inch pipe at 1,480 feet.

Santa Fe County

Elmer Fisher's No. 1 Hill, SW Section 6-10n-7e, Barton district, is shut down at 2,750 feet in biotite mica.

COLORADO

Montezuma County

An interesting show of oil and gas in the McElmo Canon district in the southwestern corner of Colorado is reported in McElmo Oil Co.'s No. 1 West, NE NW NE Section 31-36-17w. This wildcat is in an area not regularly scouted, but reports from reliable sources are that the showing is of considerable importance. It is reported the well topped the Pennsylvanian at 3,100 feet. At 3,131 feet, in a very hard limestone formation, a show of gas, estimated at 250,000 feet a day, was encountered. The tools were pulled and the bailer run. It encountered cavings and could not get within 300 to 400 feet of bottom. When pulled up it was half full of oil. L. E. Teague, in charge of the drilling, says the oil is of about 47 gravity. Operations were suspended until a control head can be installed. Next day the oil was reported standing 700 feet in the hole, coming through the cavings, and the gas rose to about 2 feet above the casinghead. The well had a show of 50,000 feet of gas a day at 2,640 feet. The 6⅝-inch was lowered through this gas sand, but below the pipe the hole showed a tendency to cave whenever any water was carried and drilling was in a dry hole. The driller expressed the opinion the oil coming up to the soft ground caused the hole to bridge.

No. 1 West is about 2 miles southeast of a test drilled in 1922 by Midwest Oil Co. in Section 23-36-18w. This wildcat had a show of oil at 1,740 feet and 100 feet of oil at 1,890 feet, supposed to be in the red beds. It had 4,000,000 feet of gas a day at 4,217 feet and a show of oil at 4,150 feet and was abandoned at 4,588 feet. A fault with a displacement of about 45 feet lies between this well and No. 1 West. The Midwest test was plugged and abandoned and the company pulled out of the district, but recently the old well was reported leaking considerable gas through the plugs.

No. 1 West spudded June 17, 1932, and has been drilling intermittently under very adverse conditions. It has changed management several times but local people, including Judge J. J. Downey, S. R. Coon, L. E. Teague and others, not only contributed funds but worked individually and furnished supplies in their efforts to make a test of the structure. The present show of oil is estimated about 300 feet above the objective, based on the log of the old Midwest well. The fact oil and gas were encountered in a very hard limestone caused the decision not to attempt the making of any new hole until preparations could be made for eventualities.

Boulder County

Leslie R. Steele and others' No. 1 Maxwell, SW NE NW Section 24-1n-71, west of the old Boulder Field, delayed by a fishing job, has recovered lost bit and has resumed drilling at 345 feet.

Archuleta County

C. B. Garnett and crew are returning to Oil City Petroleum Co.'s No. 1-A Garnett, NW NE SW Section 25-33-2e, Price district, to resume operations at 1,098 feet. It had a good show of oil at 970 feet. More than 100 bbls. altogether were bailed out between that depth and present bottom.

Moffat County

Stanolind Oil & Gas Co.'s No. 28-X Parkinson, NE SW SW Section 22-4n-92, Iles Dome, topped the Dakota at 2,768 feet and is drilling at 2,842 feet with the Sundance as the objective.

Park County

South Park Oil Co.'s No. 1 State, SE cor. SW Section 16-11-75, Hartsel district, is drilling at 1,375 feet.

Prowers County

Trojan Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, is shut down at 5,164 feet on account of dust getting into bearings.

WYOMING

Big Horn County

Jerome Drumheller's No. 1 Government, SW SE NE Section 17-49-91, on the Manderson structure, reported completed last January for 1 bbl. per day from the Torchlight sand at 1,329-41 feet, was deepened to 1,460 feet. It then plugged back to 1,375 feet, where it pumped 15 bbls. first 24 hours.

Yale Oil Corp.'s No. 1 Blakesley, NE NW Section 28-49-91, Bonanza district, in the Big Horn Basin, is reported to have 1,235 feet of oil in the hole from the Kimball sand at a total depth of 1,400 feet and is rigging up pumping equipment. The 8¼-inch was set on top of the sand at 1,395 feet. The Kimball sand normally carries light oil. Several tests were drilled on this structure in the early Wyoming development, but none opened a productive pool. This test is based on subsurface geology worked out from the logs of the old wells.

Ohio Oil Co.'s No. 2 Sidon Canal, C SW SW Section 24-56-97, Byron district, is rigging up rotary. Peay Oil Co.'s No. 1 Denio, Tract 43-C, Section 15-55-97, is fishing at 3,200 feet. California Exploration Co.'s No. 1 Government, C SW SW Section 4-54-94, Spence Dome, is drilling at 1,000 feet.

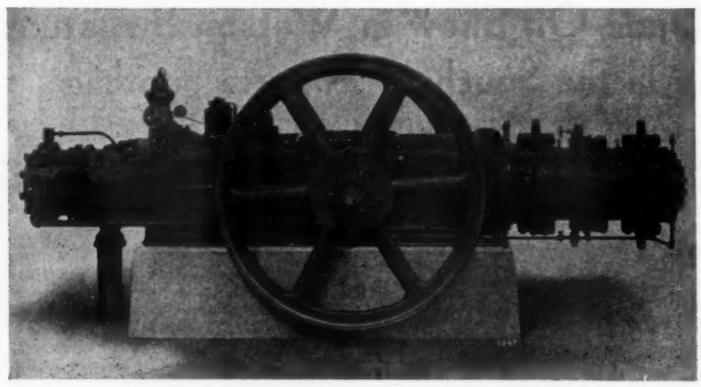
Carbon County

Ohio Oil Co.'s No. 1 Kyle, NE SE NE Section 26-21-79, Big Medicine Bow structure, a joint operation with California Co., showed for 36,000,000 feet of gas a day in a drill stem test at 5,159-5,206 feet, in the upper Sundance formation and marks an important discovery in a deeper horizon. Drilling stopped at 5,206 feet and 7⅝-inch was cemented at 5,159 feet. It is probable the Sundance will be drilled to the bottom for possible oil production. If oil is not encountered, it is likely the gas will be conserved until a test is drilled lower on structure to determine whether oil circles the gas. Big Medicine Bow is a large structure with 10,000 to 12,000 acres inside of the closed contours, but the drainage area is not very extensive. It has a closure of 2,700 feet with beds dipping 20 to 75 degrees on the east and north where the flanks are the steepest, and an average of 7 to 8 degrees on the south and southwest.

Pumping Engines Are Equally Adaptable For General Power Service in Field

Engineers of Cooper-Bessemer Corp., Mount Vernon, Ohio, have made two sizes of pumping engines equally adaptable for pneumatic lift, repressuring, and general power service in the oil fields. Such versatility of application, say Cooper-Bessemer engineers, may be arranged in advance at little cost. For example, when a type G-AG or type G-AO pumping engine is ordered for beam-well pumping or for central-power pumping, the user has the option—at a slightly increased price—of specifying a "compressor main frame." By specifying this special frame, he automatically prepares the unit for a possible future transition to pneumatic pumping. The change into a direct-driven compressor unit may be effected at any time by the simple addition of compressor cylinders and driving parts.

Any units thus transformed in the field will be identical with the type G-MG and type G-MO compressor units now available from the factory in completely assembled form. The smaller compressor unit is rated 35 to 50 horsepower. The larger compressor unit is rated 45 to 65 horsepower.



Illustrated here is one of these complete compressor units equipped for pneumatic pumping. It can be equipped for any requirement of gas or air compression within its power range, by using different compressor cylinders. With a pumping engine that permits of other power applications, duplication of spare parts is, obviously, not a problem.

It is said that these two-cycle Cooper-Bessemer engines are suitable for refinery or gasoline-plant power services such as the driving of generators, compressors, water pumps, oil pumps, or line shafts.

Several tests have been drilled but none went below the Lakota. The deepest was Southwestern Petroleum Co.'s No. 1, NW SW Section 25-21-79, which had water in the Lakota at 4,968 feet.

Ohio Oil Co.'s No. 1 Morris, C NW SE Section 6-20-77, Diamond Dome, is plugging back from the Tensleep at 7,360 feet, where it had water, to test some upper showings of gas, but these are not promising and the hole probably will be abandoned.

Earl W. Reeder, Inc.'s No. 1 Whitford, SW SE SE Section 24-20-84, Overland Dome, held up several weeks on top of the General Petroleum series of sands at 3,595 feet, total depth, has swedged out and cemented collapsed 10-inch at 2,383 feet and is bailing to test. It will drill in with cable tools.

Ohio Oil Co.'s No. 10 Harrison & Cooper, NE NW SW Section 35-20-78, Rock Creek, a test to the Sundance, is standing at 2,734 feet, old total depth, after cementing off caves.

Converse County

R. J. Dilger and others' No. 1 Government, SE NE SW Section 33-31-72, Poison Lake district, is drilling at 1,100 feet, and John Ackard's No. 1 Daniels, SW cor. SE Section 17-32-71, Brenning Basin, is drilling at 2,600 feet. Chadron-Osage Oil Co.'s No. 1 Jebel, C N half Section 17-32-69, is drilling at 600 feet, close to the objective gas sand, for additional fuel for deep test.

Fremont County

Monongahela Oil Co.'s No. 1 Wisda, NE SE SE Section 13-28-93, Crook's Gap, is rigged and ready to resume at 2,970 feet. Mid-American Oil Co.'s No. 2 Government, C NE SW Section 14-28-92, Sheep Creek, which had 1,500 feet of oil in the hole from the Embar at 2,219 feet, total depth, was deepened to 2,260 feet without any material change and is rigging up for a pumping test.

Niobrara County

Ohio Oil Co.'s No. 6 Lamb, C SE SE Section 32-36-65, Lance Creek, is spudding with the Sundance as the objective. Continental Oil Co.'s No. 1 Apex-3, SW NE SW Section 34-36-65, is cleaning out at 3,533 feet to make test of gas in sand. S. & H. Development Co.'s No. 1-A Olinger, SE NE NW Section 1-36-63, Old Woman Creek, is drilling in the Muddy at 1,361 feet with water in the hole, and will go 30 feet deeper to the Dakota.

Park County

Texas Co.'s No. 3 Sonners, NE NW Section 29-51-100, Oregon Basin, is drilling at 1,315 feet.

Washakie County

Wyoming Oil & Refining Co.'s No. 1 Frison, NW SW NW Section 14-48-91, Hidden Dome, is drilling at 1,338 feet.

Weston County

Albert Jones' No. 9 Bock, CWL SE NE Section 21-46-63, Osage Field, was dry and abandoned at 440 feet, and Osage Trust Co.'s No. 26 State, C SE NE Section 14-46-64, is shut down for repairs at 1,300 feet.

MONTANA

Glacier County

Five new locations were reported in the Cut Bank Field: R. C. Tarrant's No. 6 Haglund, Jr., C SE NW Section 13-34-6w; Santa Rita Oil & Gas Co.'s No. 1 Ritchie, C NW SW Section 5-33n-5w, and No. 2 Ritchie, C NE NE Section 6-33-5w; same company's No. 5 Whetstone, C Lot 3 (NE SE) Section 22-35-6w; and Montana Power Gas Co.'s No. 1 Lookhoff, C SW SE Section 28-33-5w.

Askins' No. 1 Askins, Lot 24, Block 33, Section 12-33-6w, is drilling at 2,380 feet. Consolidated Gas Co.'s No. 3 Tribal, NE NW NW Section 34-35-6w, is drilling in at 2,967 feet with 1,100 feet of oil in the hole, and its No. 6 Tribal, C SW SW Section 10-34-6w, is building rig.

Dakota-Montana Oil Co.'s No. 2 Winkler, E NE NW Section 26-35-6w, is spudding at 270 feet, and Gardner-Smith's No. 1 Tweedy, NE NE Section 36-33-6w, is spudding at 75 feet. Indian Oil Co.'s No. 2 Winkler, W SW SW Section 23-35-6w, bridged back from 2,585 feet to 900 feet to drill by lost tools, and Kately & Kaup's No. 1 Drumheller, Lot 1, Section 10-34-6w, is drilling at 2,860 feet.

Montana Headlight Oil Co.'s No. 5 Yunck, NW NE NW Section 1-34-6w, topped the Colorado at 405 feet and set the 10-inch on bottom at 470 feet with 50 sacks. Montana Power Gas Co.'s No. 1 Highland Unit (formerly No. 1 First Trust & Savings Bank), NW SE NW Section 27-36-5w, is building rig, and its No. 1 Miller, C NW NW Section 28-33-5w, is building rig. Par Oil Co.'s No. 4 Haines, E SE SE Section 2-34-6w, is standing cemented at 2,761 feet and is ready to drill in 10 days after spudding.

Big Horn County

Enterprise Drilling Co. and Norbeck Drilling Co.'s No. 2 Lynde, SW cor. SE Section 21-6s-35, Lodge Grass Creek, is drilling out cement at 3,621 feet, total depth.

Cascade County

C. Leonard Smith's No. 1, NE cor. SW Section 14-22-2e, Benton Lake district, which spudded and shut down last fall, is moving in Fort Worth spudder to resume.

Fergus County

Button Butte Oil & Gas Co.'s No. 1 Woodward, SE cor. SW Section 20-14-24, Button Butte district, is drilling at 3,058 feet.

Liberty County

J. H. Hamilton and others' No. 1 Northern Farms, C NE SW Section 10-37-5e, Flat Coulee, landed 8¼-inch on bottom at 2,450 feet and is making new hole.

Phillips County

A first report is Grant Smith and others' No. 4 Phillips, E NW SW Section 2-24-23, Bow Creek district, spudding. at 80 feet to go to the Kootenai, a wildcat 4 miles northwest of the Guinn Dome. Guy Norman's No. 1 Pewitt, NE NW NE (cor.) Section 20-24-24, Guinn Dome, is drilling at 388 feet.

Pondera County

Conrad Refining Co.'s No. 2 Gjullin, NW cor. SE Section 11-27-4w, Pondera Field, was completed at 1,895 feet for 20 bbls. initial on the pump. It will acidize. Same company's No. 3 Gjullin, NW NW Section 11-27-4w, is a location.

Toole County

In the Devon district C. Leonard Smith is resuming operations. A first report is Smith's No. 1 H. Halverson, NW NE Section 18-33-2e, which is rigging up. His No. 1 Federal Land Bank, C NE SE Section 11-33-1e, was abandoned at 110 feet. His No. 1 Eckhoff, C SE Section 6-33-2e, which was temporarily abandoned at 575 feet and rig moved away last fall, is moving in new rig to resume. His No. 1 Halverson, C NE SE Section 18-33-2e, is rigged and ready to resume at 175 feet.

In the Kevin-Sunburst Field, A. E. Crumley's No. 5 Shaw, NW SE SW Section 35-36-2w, is rigging up cable tools, and Monopeg Oils, Ltd.'s No. 3 Dipple, SW NW Section 28-35-1w, is drilling at 1,350 feet. Texas Co.'s No. 5 Swears, C SW Section 9-35-2w, is spudding at 50 feet, and E. O. Reickhoff's No. 2 Government, SW cor. NE Section 3-35-3w, is rigged and waiting for governmental approval. Ward & Cruise's No. 1 Thompson, NW SE Section 28-35-3w, was shot at 1,775 feet, total depth, with 100 quarts and is rigging up to test oil show at 1,723-30 feet.

UTAH

A new operation in Washington County is reported in the Escalante Exploration Co.'s No. 1 State, Section 32-43-15w, White structure, drilling at 970 feet. Arrowhead Petroleum Corp.'s No. 1-A, SE SW NE Section 1-43-15, Punchbowl district, is drilling at 870 feet with a show of oil, and its No. 2 Escalante, NW cor. NE Section 19-43-15. Bloomington district, is cleaning up debris after fire to resume at 4,200 feet.

SOUTH DAKOTA

Louis Gokel and others' No. 1, C SW NW Section 1-6s-1e, Pass Creek district, Custer County, is drilling at 200 feet in asphalt.

Kansas Fields

(Continued from Page 62)

3,265 feet, total depth, good for a potential 24 hours gauge of 1,015 bbls. of oil after acidizing with 1,000 gallons.

Shell Petroleum Corp.'s No. 3 Tournear, SW NW SE Section 29-19-9w, Grove Pool, potentialed 1,558 bbls. of oil in 24 hours from the Siliceous lime logged from 3,205 to 3,234 feet, total depth. It was a completion.

In the same pool, Sinclair Prairie Oil & Gas Co. had completed its No. 4 Wallace, SE SW SW Section 29-19-9w, in the Siliceous lime at 3,207-3,241 feet,

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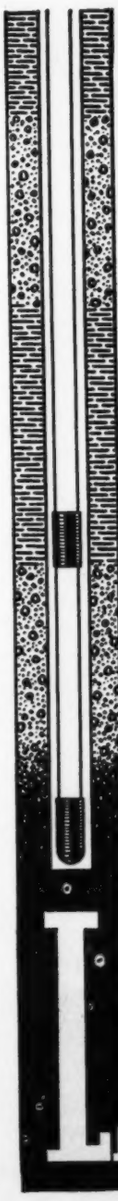

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total depth, which pumped 428 bbls. of oil in 24 hours after it was acidized with 1,000 gallons.

Gypsy Oil Co. had staked location for its No. 1 Smith in the NE cor. Section 16-20-9w, one-half mile south of its No. 1 Keesling discovery, in Rice County.

Ellis County Wildcat Location

On a 5,000-acre block in southern Ellis County and about 15 miles removed from the nearest production, Tom Palmer had staked location for No. 1 Rudder, in the SW NE NW of Section 17-15-18w.

Phillips Petroleum Co. and others had made location for their No. 1 S. Bertha in the C SW SE Section 5-12-17w, Shutts Pool in Ellis County.

Ellsworth County

Carter Oil Co. and others' discovery south of the Lorraine Pool in Ellsworth County, No. 1 Teubner, SE NW Section 26-17-9w, which pumped 161 bbls. of oil in three hours in Siliceous lime at 3,169½ to 3,179 feet, total depth, was shut down for a pipe line connection.

In the Lorraine Pool of Ellsworth County, Atlantic Oil Producing Co. was moving in material for its No. 5 Rolfs in the NE NW SE Section 14-17-9w.

Midway between Ellsworth and the Lorraine Pool in Ellsworth County, Ralph Pryor and Floyd Lockhart and others, at their No. 1 Gregory wildcat in SE cor. Section 19-16-8w, topped Siliceous lime at 3,196 feet and were drilling below 3,260 feet with no showing of oil or water.

Reno County

Reno County led all counties in the State last week in new production, getting 4,672 bbls. of oil in 24 hours from three completed oil wells. There were completions outside of the Haury-Burrton Pool and no new operations for the county.

Barnsdall Oil Co.'s No. 14 Sabin "C," NE NW SE Section 11-23-4w, Haury-Burrton Pool, Reno County, was completed in the Hunton lime drilled from 3,562-68 feet, total depth, which, after acid treatment, produced 1,472 bbls. of oil in 24 hours.

Marathon Oil Co.'s No. 4 Vansickle, SE NE NW Section 23-23-4w, Haury-Burrton Pool in Reno County, flowed and pumped 2,171 bbls. of oil in 24 hours from Hunton lime encountered from 3,587-3,605 feet, total depth. It has been treated with 1,000 gallons of acid.

In the south end of the Haury-Burrton Pool of Reno County, Hunton lime from 3,592 to 3,605 feet, total depth, yielded 1,029 bbls. of oil the first 24 hours in Dickey Oil Co. and Indian Territory Illuminating Oil Co.'s No. 1 Baughman, NE NW NE Section 3-24-4w.

Harvey County

Harvey County operations the past week resulted in the completion of two oil wells equal to 96 bbls. a day and three new operations, two of which were wildcat tests.

In the Shell Petroleum Corp.'s No. 2 Neufeldt, C NW Section 8-22-3w, Nikkel Pool in Harvey County, Hunton lime was topped at 3,470 feet; at 3,491 feet it swabbed 70 bbls. of oil in 12 hours; at 3,506 feet, total depth, it swabbed 27 bbls. of oil in 10 hours and was then given a 3,000-gallon acid shot which resulted in the recovery of only 30 bbls. of oil in 15 hours. It was then given a 5-quart and a 10-quart shot of nitro, swabbing 32 bbls. of oil in 8 hours, finally being completed for 86 bbls. of oil on the pump after another 3,000-gallon shot of acid.

In the Hollow Pool of Harvey County, Hunton lime at 3,418-3,471 feet, total depth, was acidized with 1,000 gallons and produced 10 bbls. of oil in 24 hours in Sinclair Prairie Oil & Gas Co.'s No. 2 Neufeldt "A," C E half E half SE Section 18-22-3w. This test was formerly bottomed at 3,180 feet.

D. R. Lauck and others were building rig on location for their wildcat test, No. 1 Baller, SW cor. Section 29-24-1e, Harvey County.

Hartman & Blair and others had cellar dug for their No. 1 Redinger, NW cor. Section 15-24-3w, Harvey County wildcat test, being drilled on subsurface formation.

Sinclair Prairie Oil & Gas Co. was deepening its No. 8 Martens, SE NW SE Section 19-22-3w, Hollow Pool, in northwestern Harvey County, from old depth of 3,443 feet and had topped Viola lime at 3,548 feet, Simpson at 3,565 feet, and was shut down at 3,586 feet, 20 feet in Wilcox sand topped at 3,566 feet with 125 feet of water in the hole.

McPherson-Sedgwick Counties

McPherson Oil & Gas Co. had rig up for its No. 3 Anderson, SE NE Section 31-18-2w, McPherson Pool of McPherson County.

In the Robbins Pool of Sedgwick County, T. Johnson and Atlantic Oil Producing Co. were waiting on cement to set at their No. 2 Cook, NW NE SW Section 20-28-1, after running 10-inch casing to 86 feet.

Greenwood-Woodson Counties

In eastern Greenwood County, A. M. Landon had completed for 10 bbls. daily on the pump his No. 3 Parish, SE SW NE Section 16-24-12, after acidizing with 1,000 gallons the Mississippi lime logged at 1,657 to 1,682 feet, total depth.

The Mohawk Oil Co. had abandoned its No. 1 Reno, NW NE SW Section 7-27-11e, Greenwood County, at 2,294 feet, where it encountered a hole full of water. It is an old well formerly bottomed at 1,909 feet.

Elbar Corp. acidized Mississippi lime 1,630-42 feet in its No. 4 Figee, NE SW SW Section 27-23-14e, Woodson County, and it was completed for 40 bbls. daily on the pump.

Cross and Field were drilling at 660 feet in their No. 3 Mason, C E half NW SW Section 14-25-13, Greenwood County.

Elk-Butler Counties

At Howard, in Elk County, Morrow Brothers had completed for 10 bbls. daily on the pump their No. 2 Dunkleberger, C W half SE NW Section 34-29-10. Pay was from 1,203-1,218 feet, a lime formation which they acidized.

Butler County new operations for the week consisted of Phillips Petroleum Co. and others moving in machine for their No. 1 Moore, NW SE Section 1-25-3, and Vickers and Sanford's No. 2 Joseph, C E half NE NW Section 2-25-3, machine on location.

Sumner-Cowley Counties

In the Wellington Pool of Sumner County, E. B. Shawver and the Texas Co. had acidized with 1,000 gallons the Chat formation logged at 3,675-3,714 feet, total depth, in their No. 1 Gaskil, SE NE SE Section 29-31-1w, which responded with 183 bbls. of oil in 24 hours on the pump.

Dan Patton and others' No. 1-A Higginbotham, SW NW SW Section 29-31-6, Burden Pool in Cowley County, was reported pumping at the rate of 20 bbls. of oil an hour from the Bartlesville sand at a total depth of 2,942 feet.

Washoma Oil Co. and others were rigring up to deepen from 1,968 feet, their No. 3-B Bussard, C E half NE SW Section 36-31-2, Cowley County.

Oklahoma Fields

(Continued from Page 67)

plugged back to 1,000 feet, the 7-inch casing being then set at 908 feet.

In the Tatums Pool of Carter County, Samedan Oil Co.'s No. 5 Trahern, NW SE NW Section 31-1s-2w, was completed for 15 bbls. of oil a day in sands logged at 2,188-2,224 feet, 2,312-17 feet and 2,460-68 feet. Total depth was 2,675 feet.

Schermerhorn Oil Co. had shot with 120 quarts of nitro a sand found in its No. 34 fee, SE SW SW NW Section 5-4s-3w, from 1,055-75 feet, which pumped 115 bbls. of oil the first 24 hours. Total depth was 1,078 feet. Same company had made location for its No. 13 Smith-Cruce, SW SE SW SW Section 5-4s-3w, Healdton Pool, in Carter County.

Kiowa County

Rajah Oil Co. had machine on location and was rigging up its No. 3 Stone in C SE NE Section 34-7-17w, northern Kiowa County. This test is about one-half mile east of a well drilled in 1929 which had 3 bbls. a day showing in sand logged at 908 to 918 feet. Henson & Patton's No. 2 Beller, NW NE NE Section 11-6-15w, northern Kiowa County, was drilling at 20 feet.

Marshall County

In Marshall County, Enos Pool, Levelle Coal Co. found sand at 536-45 feet equal to 21 bbls. of oil in 13 hours in its No. 5 Epler, NE cor. Section 36-7s-5e, and it was completed.

In the Isom-Springs Pool of Marshall County, F.H.E. Oil Co.'s No. 3 Snell, NE NW NW NW Section 31-7s-6e, pumped 14 bbls. of oil in 24 hours from sand at 498-506 feet, total depth, and it was a completion.

Marshall County first reports were: Mitchell and Kilbourn's No. 6 Burge, SW SE SE SE Section 25-7s-5e, machine; Centrop Oil Corp.'s No. 3 Minter, SE SW SW SW Section 30-7s-6e, drilling 146 feet.

SOUTHEASTERN OKLAHOMA

Atoka County

H. V. Sears and others had made location in eastern Atoka County for a wildcat test in the SE NW Section 17-1s-4e. It is No. 1 Downing and is reported to be a 1,000-foot test.

In eastern Choctaw County, far southeastern Oklahoma, Burns Drilling Co. and others were rigging up cable tools on their No. 1 Hallum wildcat located in the NE NW NW Section 4-7s-20.

GULF COAST CONTRACTORS

(Continued from Page 57)

The Halliburton Oil Producing Co., successors to Steen Drilling Co., are rigging up to drill the offset well to that recently completed for the Steinberger Petroleum Co. in the Port Lavaca Field. Company is also laying 10,000 feet of 4-inch pipe to supply gas to operators in the field from the discovery well. Direction of line is west from the well, but company plans to furnish gas wherever operators require it in the field. The company has acquired the acreage in the field formerly held by W. T. Dick, comprising a 485-acre tract, which gives the Halliburton Oil Producing Co. approximately 3,000 acres in the field.

Texas Co. has awarded four contract jobs in the new Port Lavaca Field, one to Allied Drilling Co., one to Cron & Gracey, one to Heyser Drilling Co. and one to O. W. Dyer of Victoria. It is reliably rumored on the street that Texas Co. has staked 10 more locations in the field.

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the question is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Coal and Rubber Raw Material For Motor Fuel and Lub Oils

Have you any information about the investigations made in England relating to the conversion of coal, rubber and other materials into gasoline and lubricating oil?—R. E. A.

Gasoline, lubricating oil and other petroleum products are composed of carbon and hydrogen and it is theoretically possible to make petroleum products from any material containing large quantities of carbon by treatment with hydrogen. The Fuel Research Board of England has for some years been making a study of the carbonization of coal. A recent, November, 1934, report of the board described some of this work as completed for the year ending March 31, 1934.

Gas spirit from the carbonization of coal at a temperature of about 650° C. has been treated, with a view to obtaining viscous oils by polymerization of the unsaturated hydrocarbons. The spirit was washed with caustic soda to remove tar acids and hydrogen sulphide, with sulphuric acid to remove the alkali, and finally with water. It was dried, and then refluxed for 12 hours at 78° C. with 7 per cent by weight of powdered aluminium chloride. A 60-gallon iron still fitted with a stirrer and reflux condenser was used. After separation from the sludge, the product was washed with caustic soda and with water. It was topped to 220° C., using superheated closed and open steam in an iron still. Analysis of the spirit before and after treatment gave the results shown in the following table:

	Unsaturated hydrocarbons	Aromatic hydrocarbons	Saturated hydrocarbons
Original spirit, per cent by weight	32.0	28.2	39.8
Spirit after treatment, per cent by weight	1.3	30.7	68.0

A sample of the residue was distilled in the laboratory under reduced pressure with superheated steam, and four grades of viscous oil were collected. Grade I corresponded roughly to a spindle oil, grades II and III together to a motor car oil, grade III alone to a cylinder oil, and grade IV to a heavy gear oil. The combined yields amounted to 8 per cent by weight of the spirit treated. They were all clear, good-smelling oils, yellow in color, and possessing a faint blue fluorescence. By courtesy of the Anglo-Persian Oil Co. these fractions were examined in its research laboratory, and the following results were obtained using the Air Ministry oxidation test:

Oil—	I	II	III	IV
Carbon residue before test	0.10	0.17	0.16	0.15
Carbon residue after test	1.43	0.85	1.72	1.56
Increase	1.33	0.68	1.56	1.41
Viscosity at 100° F. (Stokes):				
Before test	0.310	0.784	2.32	7.53
After test	1.243	1.505	10.2	37.6
Ratio of viscosities	4.01	1.92	4.38	5.0
Viscosity at 200° F. (Stokes)	0.0463	0.0746	0.132	0.195
Viscosity index	+11	—12	—43	—195

Compared with petroleum oils these oils have very poor viscosity indices. Oils I and II might be used in cases where they would not be subjected to high temperatures. With respect to stability to oxidation, oil II is fairly good but the others are poor.

The report also describes preliminary experiments on the production of motor spirit from rubber by the action of hydrogen under pressure. It is found that rubber is readily amenable to hydrogenation, and that by suitably adjusting the temperature it is possible to produce either motor spirit or lubricating oil. It is realized that the manufacture of these products from rubber would not be economic unless the rubber were available at a very low price. Under the conditions described in the report a yield of motor spirit corresponding to about half the original rubber by weight was obtained when the reaction temperature was 450° C.

Forms of Sulphur in Crude Oil and Petroleum Products

What forms of sulphur are found in crude oil? Are these also present in the raw products as separated in the refinery?—J. R. G.

Crude oil is composed of numerous hydrocarbons, each of which is capable of forming one or more compounds containing sulphur. This indicates how complex the condition is and therefore the wide range of possibilities. Sulphur is known to be present in crude oil in many forms and additional compounds are produced during the treatment of the oil in refineries.

The simplest condition in which sulphur has been recognized in the crude oil is as free sulphur; that is, sulphur in solution. This form does not appear to exist in petroleum products except as an accidental impurity introduced by overrefining or sulphuring when sweetening or treating the light oils.

The sulphur compound so frequently present in crude oil is hydrogen sulphide, easily recognized by the characteristic bad odor. Some natural gas contains so much hydrogen sulphide that it is not economically possible to purify it for transportation through the pipe lines. Hydrogen sulphide is found in the distillates from petroleum, probably produced as the result of the decomposition of complex hydrocarbons containing sulphur present in the crude oil. Another source may be the interaction of sulphur and the hydrocarbons, under pressure and high temperature; the sulphur being derived from the sulphur and hydrogen sulphide of the original oil or being formed as a decomposition product.

The mercaptans, thiophenes and organic sulphides are the other forms of sulphur. These are terms broad enough to include many substances. It is not known how many compounds of this sort may be contained in crude oil because they have in most instances been detected in the distillates and may have resulted from the molecular rearrangements of the substances in the oil.

The mercaptans contain the group SH and are represented by the general formula R.SH. Ethyl mercaptan, C_2H_5SH, is well known, being responsible for the unpleasant odor of an unfinished gasoline.

When the hydrogen of hydrogen sulphide is replaced by a radical, such as ethyl, the sulphide is produced, called diethyl sulphide, $(C_2H_5)_2S$. Such compounds are known as organic sulphides.

The most troublesome class of sulphur compounds met with in petroleum are the thiophenes, cyclic compounds that are quite stable and therefore difficult to remove by ordinary refining methods. These compounds are not corrosive under ordinary conditions but when the sulphur of the product is largely in the thiophene form, the reduction of the total sulphur content to meet the common specification, required for gasoline, presents a serious problem.

Removal of Hydrogen Sulphide From Natural Gas

What methods are used for treating a natural gas containing large percentage of hydrogen sulphide? Is it possible to obtain any metal that will withstand the action of hydrogen sulphide and the substances used in treating the gas?—W. E. S.

Water will absorb some hydrogen sulphide, about 4.3 per cent in cold water, but is more soluble, 9.5 per cent, in alkaline solutions of sodium hydroxide. This suggests that a combination of units, first passing the gas through water and then through sodium hydroxide (caustic soda) solution, is the proper system for removing hydrogen sulphide from a gas.

The reaction of sodium hydroxide and hydrogen sulphide is represented by

$$NaOH(40)+H_2S(34)\rightarrow NaSH+H_2O.$$

Converting the molecular weights to pounds, it is clear that 40/34=1.176, or one part H_2S requires 1.176 parts NaOH for complete combination. However, it is essential that the NaOH be maintained at an excess. This is shown by

$$2NaOH+H_2S\rightarrow Na_2S+H_2O$$
$$NaOH+H_2S\rightarrow NaHS+H_2O$$
$$Na_2S+H_2S\rightarrow 2NaHS$$

A similar result will take place whenever the reaction is nearing completion in the presence of an excess of hydrogen sulphide.

A patented process is based upon the action of sodium carbonate, the alkaline solution, with hydrogen sulphide to produce sodium bicarbonate and sodium acid sulphide. The alkaline material being revivified to be used over and over again.

$$Na_2CO_3+H_2S\rightarrow NaHCO_3+NaHS$$

After this operation air is blown through the solution to aid the formation of the sodium carbonate and the removal of sulphur from the solution; the H_2S passing out into the air.

$$NaHCO_3+NaHS\rightarrow Na_2CO_3+H_2S$$

It appears that all of the sodium carbonate is recovered, but this is not a fact, because other compounds, so the required concentration of alkali is maintained by the addition of fresh sodium carbonate. The reaction is accelerated by the use of a catalyst, colloidal nickel sulphide. When weak solutions of copper are available they may be used for hydrogen sulphide removal from gas. As an example—hydrogen sulphide passing through a solution of copper sulphate, causes the formation of copper sulphide. This may be oxidized, with steam and air, to copper sulphate and sulphuric acid.

There are other methods, most of them of minor importance, including the acid of sulphuric acid on the hydrogen sulphide; another in which sulphur dioxide is used; and one depending upon the action of cupric chloride in a concentrated brine, reducing the H_2S to sulphur and forming hydrochloric acid.

All of these methods have to deal with the problem of corrosion. Where acids are formed or enter into the process the kind of metal that is resistant to the particular acid will have to be used for all parts that are exposed. The corrosive action of hydrogen sulphide has been studied by Devine, Wilhelm and Schmidt, as reported in Amer. Inst. Min. & Met. Engs., Tech. Pub. No. 531, 1934.

The following is a summary of the results obtained:

1. Steels containing 12 to 27 per cent of chromium showed the highest resistance to corrosion. The presence of nickel in these high-chromium steels did not affect their resistance.

2. Steels containing approximately 5 per cent of chromium showed comparatively high resistance, but somewhat less than that of the high-chromium steels.

3. Nickel cast iron was indicated as having resistance superior to all other materials tested, except those mentioned in paragraphs 1 and 2.

4. The remaining materials tested were attacked comparatively rapidly. These may be divided, however, into a "more resistant group" and a "less resistant group," as follows:

(a) More resistant group: Steels containing 0.50 to 5 per cent of nickel; copper-molybdenum steel; steels containing 0.65 to 1 per cent of chromium; copper-bearing steel; electric furnace iron; and wrought iron (hand-puddled).

(b) Less resistant group: Ordinary bessemer and open-hearth steels; medium-carbon steels; wrought irons; plain cast iron; and steel containing 2 per cent of silicon.

PERSONAL PARAGRAPHS

W. R. RAMSEY, of Ramsey Petroleum Corporation at Oklahoma City, Okla., has returned from a three weeks' vacation in California.

* * *

BEN ROGERS, land man at San Angelo, Tex., for Shell Petroleum Corporation, is recovering from an attack of dust pneumonia contracted while on special duty in western Oklahoma.

* * *

E. L. BLACKMAN, who has been with the Texaco Salt Products Company since it began its West Tulsa, Okla., plant, has been advanced to the sales department and given the northeastern Oklahoma territory.

* * *

ROBERT MITCHELL, geologist and scout for the Stanolind Oil & Gas Company in the Pampa territory of Northwest Texas, has been transferred to Tyler, in East Texas. GENTRY KIDD, geologist-scout in the Midland, West Texas area, takes Mr. Mitchell's duties at Pampa.

* * *

MR. and MRS. STERLING P. CLARK, JR., of Fort Worth, Tex., have returned from a honeymoon in Southwest Texas. Mrs. Clark was formerly MISS HELEN BAMBER, secretary to DR. E. R. LEDERER, vice president of the Texas Pacific Coal & Oil Company, but who is now in Washington, D. C., with the Planning and Coordination Committee.

* * *

R. E. WHITESELL, manager of oil sales for Socony-Vacuum Oil Company, accompanied by H. W. LAKE, domestic manager of the aviation department; H. W. WHITE, aviation sales manager; and C. R. DEXTER and E. F. HALLECK arrived in Los Angeles, Calif., and will make a tour of the Pacific Coast along with M. D. LEH, general sales manager of General Petroleum, and DON DAWSON, southern California general sales manager.

* * *

C. C. IRVY, of the Carter Oil Company, was a recent visitor to Central Michigan fields.

* * *

L. J. GASSEN, with the Union Sulphur Company, at Sulphur Mines, La., visited the oil show at Houston, Tex., the past week.

* * *

M. T. FLANAGAN, independent operator of Longview, Tex., has been appointed a lieutenant-colonel on the staff of GOVERNOR JAMES V. ALLRED of Texas.

* * *

E. A. LANDRETH, president of the Landreth Production Company, at Fort Worth, Tex., attended the "Wildcat Banquet" held at Houston, Tex., the past week, during the oil show.

* * *

F. L. CULVER, president of the Ajax Oil and Gas Company, of Toronto, Ontario, visited the Dover Field recently in connection with the shooting of his company's No. 10 gasser.

* * *

W. R. FLANIGAN, superintendent of the right of way department for the Sinclair Prairie Oil Company, with headquarters at Independence, Kans., visited the company's offices at Houston, Tex., last week.

* * *

L. D. M. BAXTER, manager of the Calgary & Edmonton Corporation, Ltd., of Winnipeg, Manitoba, was elected to the executive committee of the Manitoba branch of the Canadian Institute of Mining and Metallurgy, at its meeting at Winnipeg recently.

R. C. STUEVE, Electric Supply Company, Tulsa, has returned from an extended eastern business trip.

* * *

ROBERT HEAL, who has been drilling in India, is returning to his home in Petrolia, Ontario, via England.

* * *

A. E. WOODCOCK has resigned his position as managing director of Mixtrol Oil Products of Great Britain, Ltd.

* * *

J. R. McCREA, Fort Worth, Tex., representative of the Hazard Wire Rope Company, was in Tulsa on business last week.

* * *

C. A. PRICHARD, purchasing agent, Mid-Continent Petroleum Corporation, has returned from a business trip to Houston, Tex.

* * *

HARLOW A. VARNEY, general sales manager of the Moon Manufacturing Company, Chicago, Ill., stopped in Tulsa on a trip through the Mid-Continent area.

* * *

EARL SMITH, formerly of the Tulsa office of the National Tube Company, now located in the home office of the company in Pittsburgh, Pa., was a brief business visitor in Tulsa recently.

* * *

CLINTON A. ENGSTRAND, formerly of the geophysical staff of the Phillips Petroleum Company at Bartlesville, Okla., has become affiliated with the geophysical forces of the Shell Petroleum Corporation at Tulsa.

* * *

W. J. FILER and E. E. OVERTON have headed a group of sales representatives of the New York offices of the Shell Eastern Petroleum Products Company, who have been making a tour of the branch offices of the company's eastern operations.

A. L. RODDY, traveling auditor, Parkersburg Rig & Reel Company, Parkersburg, W. Va., is making the round of the company warehouses and was in Tulsa last week.

* * *

GLENN W. PATCHETT, assistant to the general secretary of the Mid-Continent Oil and Gas Association, underwent appendectomy at a local hospital last week and is reported recovering rapidly.

* * *

R. D. RISSER, superintendent for the Shell Petroleum Corporation, with headquarters at Iowa, La., spent two days in Houston, Tex., last week. He was accompanied by C. J. NELSON, drilling superintendent, and HENRY LAY, district engineer, with the same company.

* * *

O. S. DOLLISON, vice president, and C. H. ZIEME, service engineer, Republic Rubber Company, Youngstown, Ohio, on a trip to the Southwest, stopped in Tulsa last week. Mr. Zieme and NORM GROVE, Mid-Continent representative of the company, visited the Kansas fields.

* * *

STEPHEN REDFERN and ERNEST BLACK, who have been in the Blackwell, Okla., office of the Lario Oil & Gas Company, have been transferred to Wichita, Kans. Mr. Redfern becomes scout, replacing JOE O'SHAUGHNESSY, son of PRESIDENT I. A. O'SHAUGHNESSY, transferred to Oklahoma City, Okla.

* * *

JOHN T. O'NEIL, T. B. MARSHALL, E. B. FISH, E. W. PECK, W. C. SHELTON, C. W. ATKINS, P. H. O'NEIL, J. R. McALPIN and D. S. SETNAM were re-elected members of the board of directors of the Wellington Oil Company at the annual meeting of the company held in Los Angeles, Calif., last week.

* * *

JESSE MOORE, East Texas oil producer, was attracted to Central Michigan last week by the new Crystal wildcat strike.

* * *

D. R. ROBEY, JR., Olson Drilling Company, Tulsa, flew to Kansas last week in the plane recently purchased by his company.

* * *

DR. R. B. NEWCOMB, assistant state geologist, of Lansing, Mich., paid a visit last week to the Muskegon and Central Michigan fields.

* * *

ELMER E. STAUB, of Detroit, Mich., recently has been added to the board of the McClanahan Oil Company, of Mount Pleasant, Mich.

* * *

HUNTER ATHA, vice president of the Atha Supply Company, has returned to Mount Pleasant, Mich., after a winter vacation in Florida.

* * *

PHILLIP MESSENGER, with the Continental Oil Company, at Monterey, Mexico, visited the company's offices at Houston, Tex., the past week.

* * *

E. B. CLARKE, representing Vancouver, British Columbia, and Seattle, Wash., interests, visited Calgary recently in connection with prospective development work in Alberta.

* * *

J. W. CARNES, vice president of the Sinclair Refining Company, with headquarters at New York, was a business visitor to the company's offices at Houston, Tex., the past week.

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

April 20, 1910

The Central Oil Co. was incorporated in Delaware with $10,000,000 capital to take over and operate oil lands in Oklahoma, Texas and southern California and construct a pipe line from the Oklahoma and Texas fields to the Gulf.

The Gypsy Oil Co. concluded negotiations with Charles Page for the purchase of a large acreage in the Taneha district in the north Glenn extension.

Murray Doan, formerly with the Sun Company at Beaumont Texas, arrived in Tulsa to join the land department of the Gypsy Pipe Line Co., and was securing rights of way for the extension in the Osage.

20 Years Ago

April 15, 1915

The filing of two sealed bids for unstated acreage in the Osage created a great deal of comment in Oklahoma, it not being expected there would be any bids outside the proposition from the Indian Territory Illuminating Oil Co. and the proposition from the sublessees for the renewal of the leases on the developed portion not included in the I.T.I.O. leases.

The Producers refinery at Gainesville, Tex., was assured and all contracts reported let. The plant was to handle only Healdton crude and was to be constructed for supplying the fuel oil trade.

Shreveport, La., was much interested in the activity in the Red River Field.

10 Years Ago

April 16, 1925

Output from the recently discovered deeper sands in the Smackover Field, Arkansas, was showing a phenomenal increase.

The automobile industry was using "1925 the closed car year" as a slogan, closed car production being expected to pass 50 per cent with a corresponding increase in the consumption of gasoline due to the gain in all weather travel.

The territory surrounding the T. B. Slick well on the western edge of Cowley County, was interesting Kansas operators.

BURKS WHITE, formerly of Mount Pleasant, Mich., but recently of Midland, Tex., last week returned to Central Michigan.

* * *

M. T. RATHVON, general superintendent of the Argo Oil Company, Casper, Wyo., visited Denver, Colo., to confer with officials of the company.

* * *

JAMES R. JONES, general attorney for the Argo Oil Company, left Denver, Colo., last week for a business trip to Kansas and Oklahoma points.

* * *

MRS. J. D. JACKSON, of Artesia, N. Mex., has been transferred to Clovis, N. Mex., where she will supervise the charge accounts of the Gas Company of New Mexico.

* * *

J. HARVEY WILSON, district superintendent of the Pecos Valley Gas Company, at Artesia, N. Mex., has been transferred to the Clovis office of the Gas Company of New Mexico.

* * *

J. W. VANDERWILT and W. S. BURBANK were guest speakers at the meeting of the Rocky Mountain Association of Petroleum Geologists in Denver, Colo., on April 15.

* * *

GLEN M. RUBY and ROBERT B. MORAN were re-elected president and vice president, respectively, of the Nordon Corporation at the annual meeting held in Los Angeles, Calif., early last week.

* * *

HARRY HINES, independent operator of Wichita Falls, has been named head of the Texas Highway Department by GOVERNOR JAMES V. ALLRED. Mr. Hines succeeds W. R. ELY, who has held the post eight years.

* * *

MR. and MRS. JOHN F. DEVINE have returned to Thermopolis, Wyo., after a visit with relatives at Ekalaka, Mont. They plan to leave again soon for an extended visit in Oregon. On their return to Wyoming Mr. Devine may engage in the oil business again.

* * *

G. O. SHEFSTEAD, superintendent of the Texas Company's refinery at Craig, Colo., is in Texas, visiting company refineries, noting the various changes and improvements in company plants in that state. He was accompanied by MRS. SHEFSTEAD and their two sons.

* * *

ROBERT BRADSHAW, purchasing agent, International Supply Company, and MRS. BRADSHAW are the parents of an 8½-pound boy, born at St. Johns Hospital Tulsa, on Wednesday, April 10. This is their first child. He has been named Robert, Jr., arriving on his father's birthday.

* * *

HAROLD FELL, vice president of the Independent Petroleum Association of America, will address the independent oil producers of New Mexico on the roof garden of the Artesia Hotel in Artesia, N. Mex., on the evening of April 18. VAN WELCH, SR., is vice president of the New Mexico association.

* * *

R. S. SHANNON, general superintendent of the Rocky Mountain production division of the Continental Oil Company, was in Casper, Wyo., in regard to a plan of development for its Lance Creek-Sundance acreage in which his company holds acreage through its subsidiary, the Buck Creek Oil Company.

* * *

R. P. JACKSON, of Great Falls, Mont., secretary of the Montana Oil Conservation Commission, has been designated by the commission to go to Washington, D. C., and appear before the congressional committees in opposition to the O'Mahoney-Greever bill amending the general mineral land leasing act. The commission passed a resolution favoring the passage of the bill introduced by SENATOR CUTTING of New Mexico.

New Vice President, Jersey Company

Orville Harden, who last week was elected one of the three vice presidents of the Standard Oil Company (New Jersey), started to work for the company in September, 1910, at the age of 16 years. Born in Chicago he had gone East with his parents and at the age when most boys are in high school he went to work as an office boy in the manufacturing department for the Standard Oil Company. Later he served as junior and senior clerk in this department.

ORVILLE HARDEN

In a short time he gained the attention of G. W. McKnight, who retired in 1933 after many years of service with the manufacturing department. By 1917, Mr. Harden was assistant to Mr. McKnight, then head of the manufacturing department, and in 1920 was made secretary of the manufacturing committee of which Mr. McKnight was chairman. He continued in that department during a period of rapid expansion in the manufacturing facilities of the Standard of New Jersey.

In 1925, Mr. Harden, while continuing as a member of the manufacturing committee, was made supervisor directing the co-ordinating activities of the company and its domestic subsidiaries. This was followed in 1929 by his election to the board of directors of the parent company, being one of the youngest men to hold that position in the history of the company. In 1933 he was appointed an alternate member of the executive committee. Since becoming a member of the board, Mr. Harden has served the company in various capacities including supervision of part of the company's extensive operations in foreign countries.

E. C. GORDON ENGLAND has resigned from the board of the Vacuum Oil Company, Ltd., upon being appointed joint managing director of General Aircraft, Ltd.

* * *

R. ILLIG, sales manager, General Porcelain & Enamelling Company, Chicago, Ill., in company with A. M. CULMORE, southwestern representative, Dallas, Tex., was in Tulsa for a few days last week.

* * *

A. E. CROCKETT, manager of the bureau of instruction, Jones & Laughlin Steel Corporation, Pittsburgh, Pa., stopped off in Tulsa en route to Norman, Okla., to deliver an address at Oklahoma University.

* * *

C. V. MILLIKAN, of Tulsa, chief field engineer in the Mid-Continent organization of Amerada Petroleum Corporation, is the guest of the company's California division, and has been looking over the Amerada operations.

* * *

W. W. WRIGHT, of Hot Springs, S. Dak., who has oil holdings in southwestern South Dakota and was field man for the Wyoming-Lusk Oil Company in the Lance Creek oil field in 1913, recently visited in Casper, Wyo.

* * *

E. B. (HARDROCK) COOLIDGE, independent oil and gas operator of Great Falls, Mont., has been appointed a member of the Montana Relief Commission by GOVERNOR F. H. COONEY. Mr. Coolidge is also chairman of the Montana Oil Conservation Commission.

* * *

PETER B. PRUNTY, well known figure in eastern marketing circles, has been elected president of the National Oil Refining Company with headquarters in New York City. Mr. Prunty for several years was connected with the marketing department of the Standard Oil Company of New York and later the Warner-Quinlan Company. At present, he is devoting considerable time to code matters of special concern to independent gasoline dealers in the metropolitan area.

ERNEST E. KIRKPATRICK, at one time a vice president of the old Slick Oil Company, is now head of the Pool Drilling Company.

* * *

MAX B. MILLER, head of Max B. Miller & Company, New York, left last week on a trip to European points. He will be gone several weeks.

* * *

H. H. MARTIN, of the Anglo Ecuadorian Oilfields Company, accompanied by MRS. MARTIN, arrived in New York City the first of the week from Ecuador, on the Grace liner, Santa Inez.

* * *

BEN ROGERS, land man for the Shell Petroleum Corporation, San Angelo, Tex., recently returned to his headquarters after a business trip to Oklahoma and a week's illness in Fort Worth, Tex.

* * *

T. L. REGAN, petroleum engineer with the Stanolind Oil & Gas Company, formerly located at Longview, Tex., has been transferred to the Fort Worth, Tex., office of the company to succeed G. H. CARD, who was transferred to the Tulsa office. FRED SHELL, formerly assistant to Mr. Regan in East Texas, succeeds him in that district.

* * *

R. G. BECHTEL, district superintendent of the Stanolind Oil & Gas Company, formerly in charge of the West Texas and New Mexico district, has been transferred to Houston, Tex., in charge of the newly opened Gulf Coast division. F. L. GEHR, formerly superintendent at Pampa, Tex., has been transferred to Midland, Tex., to fill the place formerly held by Mr. Bechtel.

* * *

C. P. PARSONS, director, Halliburton Oil Well Cementing Company, Duncan, Okla., is scheduled to speak before the Purchasing Agents Association of Tulsa on the evening of April 26.

* * *

A. BAKER, head of the land department for the western division of the Ohio Oil Company, gave an interesting talk on the history of the oil industry at a meeting of the Casper (Wyo.) Lions Club.

* * *

PAUL FENTON, general purchasing agent, Tide Water Oil Company, New York City, has just returned to his office after a week's inspection tour of Oklahoma and Texas field operations of his company.

* * *

C. L. JOLIFFE, sales manager of the Socony-Vacuum Oil Company's White Eagle plant at Kansas City, Mo., and E. B. KENDRICK, manager of the company's lubricating department, addressed more than 100 salesmen and dealers in Socony-Vacuum products in Great Falls, Mont.

* * *

J. H. LAPHAM, director and member of the executive committee of the Texas Corporation, will have a new fish story to tell his friends when he gets back to New York. Mr. Lapham is given credit for having caught the third sail fish ever caught in Hawaiian waters. The catch, which weighed 130 pounds, was hooked in the Hookena area off Napoopoo after a 30-minute battle. The fish measured 10 feet 3 inches and its sail measured 30 inches.

* * *

W. L. CONNELLY, chairman of the board of the Sinclair Prairie Oil Company, and T. H. HAMMETT, attorney for the Sinclair interests, both of Tulsa, were in Casper, Wyo., last week in connection with the purchase of the Ohio Oil Company's Salt Creek properties by the Sinclair-Wyoming Oil Company. Mr. Connelly and Mr. Hammett remained in Casper to attend the funeral services of former SENATOR PATRICK J. SULLIVAN. Mr. Connelly, as general manager of the Mammoth Oil Company for many years, made his residence in Casper and was a warm personal friend of the late Senator Sullivan.

NATURAL GAS DEVELOPMENTS

Estimated Gas Reserves in Amarillo and Hugoton

TOPEKA, Kans., Apr. 15.—The Amarillo, Tex., gas fields have a life of from 50 to 76 years, according to the amount of gas withdrawn for commercial purposes or wasted, according to the testimony of Dr. Raymond C. Moore, state geologist, in the gas rate investigation before the Kansas Corporation Commission.

Doctor Moore said the total area of the Amarillo Field was approximately 1,367,000 acres, under which the original gas reserve was estimated at from 42 to 49 trillion feet.

He calculated the withdrawals of gas up to June 30, 1934, at 4,250,000,000,000 feet. The average withdrawal from 1926 to 1934 was 502,000,000,000 feet a year, while during the first half of 1934 the withdrawal rate was higher and would indicate a total of 700,000,000,000 feet during that calendar year.

The gas company engineers indicated the life of the Amarillo Field at from 10 to 15 years, basing the estimate on the original reserve at 16,000,000,000,000 feet of gas in the field.

Doctor Moore said the gas company owned 32,430 acres of proved operated acreage in three states; 167,687 acres of proved but unoperated acreage in Kansas, Oklahoma and Texas; 22,896 acres of probable gas acreage and 783,455 acres of prospective gas producing leases.

Cities Service Gas Co. and its affiliated companies, he said, in the Amarillo Field have 63 wells now producing gas, and these wells, based on taking 25 per cent of the open flow, would produce 310,361,000 feet of gas a day. The company's lines in the field have a capacity of 125,000,000 feet a day, and the total average pumping into the line was 114,000,000 feet a day during the first half of 1934.

The total taking of gas by the company in the Amarillo Field is approximately four times as much now as it was in 1928, when the companies built the line into that field.

There is enough gas in the Hugoton, Kans., Field to supply the present needs of Kansas for approximately 177 years, according to Doctor Moore. He said the Hugoton Field had been virtually untapped even though 43,000,000,000 feet of gas had been taken since it was opened. He estimated the proved area of the field to have 11,566,110,960,000 feet of gas and the probable area to have 3,443,696,070,000 additional feet.

Cities Service Gas Co. owns 107,357 acres of gas leases in the field.

"How long, in your opinion, would this field supply the State of Kansas on the present needs for gas?" asked Charles D. Welch, attorney for the state.

"It has a possible life of 177 years," replied Doctor Moore. He estimated that the original gas reserves of the Hugoton Field were 8,566,800 feet for each surface area.

Doctor Moore submitted a report showing that Cities Service Gas Co. has purchased contracts for the gas from 605 wells in fields in Kansas, Texas and Oklahoma and owns 149 wells in the same fields. It has available from its own operated acreage 381,665,000 feet a day and from the gas purchase agreements a total of 447,424,000 feet of gas a day. The maximum load which the company took in a single day was October 26, 1934, when it took 336,600,000 feet.

Robert Garver, attorney for the gas organization, brought out that the estimated gas in the Amarillo Field, as submitted by Doctor Moore, was the largest estimate. Doctor Moore said another geologist had made an estimate of 38,000,000,000,000 feet, while he has estimated it from 42,000,000,000,000 to 49,000,000,000,000 feet.

"But so far as I know, no other geologist has made the computations on that field as I have presented here," Doctor Moore said. Other geologists had estimated the recoverable gas at 16,000,000,000,000 feet.

"You don't establish the production of a gas field by the vote of the geologists," Doctor Moore said. "It has to be done by careful calculations and with consideration given to every possible factor that may apply to a field."

A geologist for the company reported the gas reserve at slightly more than 19,000,000 feet an acre, while Doctor Moore has estimated it at 33,000,000 feet. The company geologist calculated there might be a recovery of gas one and one-half to two times the amount. In that event, Doctor Moore said, the gas company estimate would approximate his own estimate as to the probable recovery of gas in that field, somewhere near 30,000,000 feet an acre.

The gas company geologist calculated his estimate on a basis of 70 feet average depth of the gas production sand, while Doctor Moore said there were numerous wells in the Amarillo Field, where the gas sand was 550 to 600 feet thick.

CORPUS CHRISTI LINE

CORPUS CHRISTI, Tex., Apr. 15.—Corpus Christi anticipates a competitive gas service since the Nueces County commissioners court granted a 25-year franchise for construction and operation of pipe lines to J. Know Culton. The Saxet Gas Co. has the present contract to supply the city.

Gas Measurement Short Course Committee List

The Gas Measurement Short Course to be held at the University of Oklahoma at Norman, April 23-25, is conducted by the College of Engineering, University of Oklahoma, assisted by the Corporation Commission of Oklahoma, Oklahoma Utilities Association, Natural Gas Department of the American Gas Association, and Natural Gasoline Association of America.

Members of Committees

Members of the committees follow:

D. C. Williams, chairman of General Committee, Kay County Gas Co., Ponca City, Okla.; Prof. W. H. Carson, chairman Banquet, Entertainment and Local Arrangements Committee, University of Oklahoma, Norman, Okla.; R. D. Turner, chairman of Program Committee, Skelly Oil Co., Tulsa; G. W. McCullough, chairman of Exhibits Committee, Phillips Petroleum Co., Bartlesville, Okla.; E. F. McKay, chairman Registration Committee, Oklahoma Utilities Association, 1020 Petroleum Building, Oklahoma City; Ray Rountree, chairman of Committee for Study of Practical Methods, United Gas Co., Houston, Tex.; Max Watson, chairman of Publications Committee, Canadian River Gas Co., Amarillo, Tex.; Paul Stockwell, Corporation Commission, State Capitol, Oklahoma City.

A. E. Higgins, secretary of Natural Gas Department, American Gas Association, Dallas, Tex.; William F. Lowe, secretary of Natural Gasoline Association of America, Tulsa; W. R. McLaughlin, Pittsburgh Equitable Meter Co., Tulsa; G. P. Bunn, Phillips Petroleum Co., Bartlesville, Okla.; J. H. Satterwhite, American Meter Co., Tulsa; G. B. Lane, Foxboro Co., Dallas, Tex.; L. G. Rheinberger, Sinclair Oil & Gas Co., Tulsa; V. C. Jarboe, Empire Companies, Bartlesville, Okla.; Fay C. Walters, Panhandle Eastern Pipe Line Co., Kansas City, Mo.; E. E. Stovall, Lone Star Gas Co., Dallas, Tex.; Gilbert Estill, Oklahoma Natural Gas Corp., Tulsa; Earl Kightlinger, Arkansas Natural Gas Corp., Shreveport, La.

John H. Baxter, ex-officio, 1924, 1925, 1926, Inland Gas Co., Ashland, Ky.; E. A. Clark, ex-officio, 1927, 1928, Columbia Gas & Electric Co., Pittsburgh, Pa.; F. D. Franks, ex-officio, 1929, Cities Service Gas Co., Bartlesville, Okla.; D. A. Sillers, ex-officio, 1930, Lone Star Gas Co., Dallas, Tex.; C. B. Day, ex-officio, 1931, Consolidated Gas Utilities Co., Blackwell, Okla.; B. L. Maulsby, ex-officio, 1932, Oklahoma Natural Gas Corp., Tulsa; W. R. McLaughlin, ex-officio, 1934, Arkansas Natural Gas Corp., Shreveport, La.

Gas equipment manufacturers represented are: Hanlon-Waters, Inc., Pittsburgh Equitable Meter Co., Byron Jackson Co., Meter Parts Co., Sprague Meter Co., Metric Metal Works, Bristol Co., Moorlane Co., C. J. Tagliabue Manufacturing Co., Taylor Instrument Companies, Chaplin-Fulton Manufacturing Co., Refinery Supply Co., Reynolds Gas Regulator Co., Foxboro Co., and Fisher Governor Co.

California Oil Association Secretary Host at Party

Third from left: J. R. Pemberton, California oil umpire; second from right, Col. F. E. Foster, managing director and secretary, California Oil and Gas Association

Following the selection of Col. Fred E. Foster as managing director and secretary of the California Oil and Gas Association, members of the wildcat committee of the association and representatives of the oil magazines and Los Angeles newspapers gathered at the Jonathan Club, Los Angeles, as Colonel Foster's guests at a stag party. The merriment was enhanced by the singing of the wildcats' own song and by the telling of the latest tall tales from the California oil country.

New Natural Gas Outlet for Michigan Production

MUSKEGON, Mich., Apr. 15.—Negotiations for an outlet for the natural gas production of several operating concerns, including the Michigan Exploration Co., of Muskegon, headed by John Borden, president of the Old Dutch Refining Co., from wells in Montcalm and Mecosta Counties through a new pipe line to the Consumers Power Co. were revealed here today.

The Michigan Exploration Co. and several other producers, including Gordon Oil Co. of Mount Pleasant, Columbia Oil & Gas Co., also of Mount Pleasant, F. Irwin Bryan and Harry T. Martin of Detroit, and Dr. Virgil R. D. Kirkham of Saginaw, have formed a new Michigan corporation to be known as the Petroleum Transportation Co.

The new pipe line company, if approved by the Michigan Public Utilities Commission, will be capitalized at $50,000. The company would build common purchaser and common carrier lines for handling natural gas already available or to be developed later in Home and Belvidere Townships, Montcalm County, and Millbrook and Rolland Townships, Mecosta County. More than 30,000,000 feet of open flow has been developed by wells completed during recent months in this area but not yet provided with a market.

A public hearing on the pipe line company application will be held before the utilities commission in Lansing Wednesday, April 17.

CENTRAL TEXAS RATES

AUSTIN, Tex., Apr. 13.—The Railroad Commission has set for hearing at Austin Monday the question of determining a proper gate rate for natural gas to be supplied by M. & M. Pipeline Co. at the city gates of Brenham, Hempstead, Eagle Lake and other South Central Texas points. The M. & M. company purchases its gas from the Humble company and resells it wholesale for distribution in several cities.

MARKET RECORD OF OIL SECURITIES

Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended April 13 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
58	48	11,100	58	53½	57½	Amerada Corp.	774,875	N.P.	50cQ	4-30-35	$2.00	55⅝	39	47⅝	18½
25⅜	21⅜	10,000	24⅞	24	24¾	Atlantic Refining	2,673,834	$25	25cQ	3-15-35	1.00	35¼	21½	32½	12⅝
8¾	5⅞	55,400	8¾	6⅞	8¾	Barnsdall Corp. A	2,248,795	$5	....	5-11-31	....	10	5⅞	11	3
7	3⅜	22,100	6¾	6	6½	Columbia Gas & Elec.	11,610,036	N.P.	....	5-15-34	‡ .25	19¼	6⅝	28½	9
8¾	6½	34,500	8¼	7⅝	8¼	Consolidated Oil Corp.	14,218,835	N.P.	14c	10-31-34	.42	14¼	7¼	15⅝	5
19¼	15⅛	16,900	18½	17¾	17½	Continental Oil of Delaware	4,738,593	$5	12½c	4-30-35	.50	22⅝	15⅝	19⅝	4⅞
18⅞	11¾	4,300	15½	14⅛	15	General Asphalt	387,149	$10	....	6-15-32	....	23½	12	27	4⅜
3⅜	1½	1,800	3	2⅝	2¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	5⅝	2½	7⅜	1⅞
1⅞	¾	600	1⅛	1	1	Louisiana Oil Refining	1,302,158	N.P.	....	.....	....	3⅜	⅝	4	⅝
12⅞	9½	9,200	12¼	11¼	11¾	Mid-Continent Petroleum	1,857,912	$10	25c	11-15-34	.50	14⅜	9⅛	16	3⅝
14⅝	9	4,900	14	11⅝	13⅝	National Supply of Delaware	382,591	$25	....	5-15-31	....	21⅛	10	28⅝	4
11⅜	9¼	20,200	11⅜	10⅜	11¼	Ohio Oil Co.	6,563,107	N.P.	15c	12-15-34	.45	15⅞	8½	17⅝	4⅜
9⅛	7	3,700	9⅛	8⅛	9	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.40	9⅜	5½	9½	3
1⅜	⅝	900	⅞	¾	⅞	Panhandle P. & R.	198,770	N.P.	....	.....	....	2½	⅝	4¼	⅜
18½	13¾	28,900	18½	17½	18½	Phillips Petroleum	4,154,687	N.P.	25c	3-1-35	1.00	20⅜	13⅜	18⅜	4⅝
9⅜	6½	15,500	9⅜	8⅛	9⅜	Plymouth Oil Co.	1,014,082	$5	25c	3-30-35	75c & 4% Stk.	16⅜	7¼	17⅝	6⅜
7¾	5⅞	15,500	7½	6⅞	7½	Pure Oil	3,038,370	N.P.	....	9-1-30	....	14⅞	6⅛	15⅝	2⅛
33⅛	29½	400	33⅛	33	33⅛	Royal Dutch N. Y. shares	432,224	$14	$1.35	7-31-34	1.35	39⅛	28⅝	39⅝	17⅝
27¾	20¾	9,100	27¾	25¼	27¼	Seaboard Oil of Delaware	1,204,460	N.P.	15cQ†	3-15-35	1.00	38⅜	20¾	43⅜	15
7⅞	6½	18,200	7⅛	7	7⅛	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	11½	6	11⅝	4
78¾	64½	600	73½	70¼	73½	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	89	57	61	28½
18¾	13½	5,600	16⅞	16¼	16¼	Simms Petroleum	461,698	$10	50c	2-1-35	.55	17⅛	7¼	12⅜	4⅝
9½	6½	1,000	9½	9	9½	Skelly Oil	1,008,514	$25	....	12-15-30	....	11½	6	9⅞	3
14⅞	11	38,800	13¾	12¾	13½	Socony-Vacuum	31,019,694	$25	15cQ	3-15-35	.60	19⅞	12½	17	6
32⅜	27¾	17,600	31⅞	30¾	31¾	Standard Oil of California	13,102,900	N.P.	25c	3-15-35	1.00	42⅞	26½	45	19½
25¼	23	13,800	24¼	23¾	24	Standard Oil (Indiana)	15,941,894	$25	25cQ	3-15-35	1.00	32¾	23¼	34	17
32	28	No sales ..	..	..	..	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	2.00	41	26	39⅞	12⅜
43½	35¾	24,700	40⅛	38¾	40	Standard Oil of New Jersey	25,740,065	$25	50cSA†	13-15-35	1.25	50⅛	39¼	47½	22⅜
68½	60	400	64	64	64	Sun Oil	1,733,013	N.P.	25cQ	3-15-35	$1 & 9% Stk.	74¼	51½	59	35
21⅝	16½	24,200	21½	19¼	21½	Texas Corp.	9,486,417	$25	25cQ	4-1-35	1.00	29⅜	19⅝	30⅛	10⅜
4¼	3¼	21,200	4⅛	3¾	3⅞	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	6½	2½	6½	1⅝
10½	7⅝	21,800	10¼	8⅞	10⅛	Tide Water Associated	5,618,672	N.P.	....	2-16-31	....	14⅜	8	11⅜	3⅛
92½	84	2,100	92½	88½	92½	Tide Water Associated pfd.	666,524	$100	$2§	4-1-35	§8.50	87	64½	65¼	23⅛
18⅜	14⅜	7,400	18⅜	17⅝	18	Union Oil of California	4,386,070	$25	25cQ	5-10-35	1.00	20½	11½	23⅜	8⅜
26⅛	20⅞	1,600	25⅛	24⅝	25	Union Tank Car Co.	1,200,000	N.P.	30cQ	3-1-35	1.20	25¾	15⅝	22⅜	10⅛
2⅝	1	500	2	1¾	2	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¾	2	5½	2

*Ex-dividend. †Plus extras. ‡Payable in preferred stock. §On account of accumulated and current dividends. ‖Distribution 4/75 Mission Corp.

Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1935 High	1935 Low	Week ended April 13 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1934	1934 High	1934 Low	1933 High	1933 Low
37	30½	350	37	36	36½	Buckeye Pipe Line Co.	200,000	$50	75cQ	3-15-35	$3.00	38	26	39¾	25
2⅜	1⅝	500	2	1⅞	2	Carib Syndicate	799,020	25c	.....	.....	....	5½	1½	7¾	¾
157	115	500	120	119½	120	Chesebrough Mfg. Co.	120,000	$25	$1Q†	3-29-35	11.50	150	116	129	71
1½	¾	33,400	1½	1¼	1⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	4¼	1¼	6¼	1½
⅛	¾	100	¾	¾	¾	Colon Oil	2,200,000	N.P.	....	.....	....	3¼	½	4	¼
⅞	⅝	600	⅝	½	⅝	Cosden Oil	399,687	$1	....	.....	....	3⅞	½	3⅞	1⅝
13⅜	10	6,300	11⅞	11¼	11⅞	Creole Petroleum	6,974,356	$5	....	.....	....	14⅜	9⅝	12	4⅜
6	4¼	500	6	5½	5½	Darby Petroleum	509,696	$5	25c	1-25-35	.50	7½	4⅛	8	2⅛
1⅛	¾	100	¾	¾	¾	Derby Oil & Refining	263,162	N.P.	....	.....	....	2¼	1	2¾	⅝
38	34	No sales ..	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	5-1-35	4.00	37	30	41¾	20
60⅞	50¼	5,800	57⅝	56	57⅝	Gulf Oil Corp.	4,538,101	$25	....	10-1-31	....	76¾	49¾	62	24
50¾	44	3,900	49⅜	48¼	48¾	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	4-1-35	§1.25	496	33¼	105½	40
17⅛	15⅜	6,900	16⅝	16⅜	16⅝	Imperial Oil of Canada	26,857,152	N.P.	25cSA†‡	12-1-34	.92½	17⅞	12⅝	15⅞	6½
4½	3⅝	100	4¼	4¼	4¼	Indiana Pipe Line	300,000	$10	15cSA	5-15-35	.35	6⅞	3⅝	8	3⅛
31⅞	28	9,100	31⅞	30½	31⅜	International Petroleum	14,247,088	N.P.	56cSA†‡	12-1-34	2.28	33⅜	19⅜	23½	8⅝
7	4⅜	9,900	6⅞	6½	6¾	Louisiana Land & Exp.	3,000,000	N.P.	....	.....	....	5	2⅛	2¼	⅛
6¾	3½	1,000	6⅝	5¼	5½	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	6	3⅜	9½	1⅜
6¼	4½	1,100	5⅛	5	5	Lone Star Gas	5,382,723	N.P.	15c	2-15-35	‖ .16	8⅜	4¼	11⅞	4⅜
4⅝	4⅛	1,000	4½	4¼	4⅜	Mountain Producers	1,682,182	$10	15cQ	4-1-35	.60	5½	4	6½	2½
14	11¾	2,800	13½	13½	13½	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-35	1.00	18⅛	13⅛	20	10
8	6⅝	200	7⅞	7½	7⅞	National Transit	509,000	$12.50	35cSA	12-15-34	.75	9½	7	10	5½
2⅝	2	500	2⅛	2⅛	2⅛	New Bradford Oil	1,445,202	$5	10cSA	3-15-35	.20	2½	1⅜	2⅛	½
2⅛	1⅜	200	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	....	.....	....	2⅜	1	1⅞	½
3⅝	3	No sales ..	..	..	..	New York Transit	100,000	$5	15cSO	10-15-34	.30	4¾	3	4⅝	3
5⅝	5¼	300	6	5⅝	6	Northern Pipe Line	120,000	$10	25cSA	1-2-35	.50	7	4⅝	6¼	4¼
2⅛	1¼	3,000	1½	1¼	1¼	Pantepec Oil	1,608,700	N.P.	....	.....	....	2⅝	⅞	3¾	⅛
1¼	1	200	1¼	1¼	1¼	Ryan Consolidated	296,931	N.P.	....	.....	....	3⅜	⅞	4¼	⅝
6½	5⅝	1,800	6½	6	6¼	Salt Creek Producers	1,496,859	$10	20cQ	5-1-35	.80	7⅞	5½	9¼	3½
23¾	21⅝	2,400	24	23	23⅜	South Penn Oil	1,200,000	$25	30cQ	3-30-35	1.20	26½	17½	22⅛	11
4½	3⅞	100	4½	4½	4½	Southern Pipe Line	100,000	$10	15cSA	3-1-35	.25	5½	3½	6	2⅛
52¼	45¼	No sales ..	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	$1Q	4-1-35	5.00	47	41	43	24½
21⅝	18	2,900	19⅜	18⅞	19⅛	Standard Oil of Kentucky	2,606,983	$10	25cQ†	3-15-35	1.50	18⅜	14⅝	19¼	8⅝
9	7¾	200	9	8⅞	8⅞	Standard Oil of Nebraska	190,822	$25	....	6-20-34	.50	16⅞	8¼	20½	11
16¼	11½	2,250	15⅛	12⅝	15⅛	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	28½	12¼	41	15⅛
1¼	1	6,000	1¼	1	1¼	Sunray Oil	1,610,810	$1	....	4-15-31	....	2	‡‡	1½	¼
6⅞	5	1,100	6	5⅞	5⅞	Texon Oil & Land	936,028	N.P.	15cQ†	12-29-34	.90	11	4⅝	13⅝	6⅛

*Ex-dividend. †Plus extras. ‡Payable in Canadian funds. §Includes 50 cents on old $25 par value stock. ‖Payable in preferred stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing and transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depths of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannnot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Finding Where the Casing Leaks and Making a Water Shutoff

Here is a method of making a test for water leaking into the casing and I would like to know whether it is a reliable test. It has been recommended to me as easier to make than most other methods. First you fill the casing with water and then get the rate at which the water level drops. Another way recommended to me is to fill the casing with water as in the other test and then put on pressure through a tight casinghead to find out whether the well will take more water in this way. Would you say that either or both of these methods are all right from an engineer's standpoint? If they are not all right, can you recommend a simple water shutoff test? What is the best way of repairing a leak in the casing?—G. F. D.

From the manner in which you state your problem it seems that you are endeavoring to learn of some method of determining the point at which water is entering a well that is cased. It is presumed that the well is making oil and that water entering has contaminated this oil and you desire to repair the well so that the water will be excluded.

Water may be present in the oil-producing formation and may be either bottom or edge water; that is, the water may occur below the oil-bearing part of the formation and as the oil and gas are withdrawn it may tend to "cone" up around the bottom of the hole and enter, mixed with the oil from above. Or it may be that edge water is moving up to your well from some distance downdip while the formation pressure around the bottom of the well is being lowered due to the withdrawal of gas and oil. This water is under higher pressure than the formation pressure at the well and is entering the bottom of the hole.

To determine the rate at which water is entering a well under such conditions all fluid possible should be removed by bailing. The height of the fluid level then should be determined by measurement. This may be done by running a tight bailer into the hole and allowing water to enter it through the valve at the bottom until it has partly filled the bailer. The length of line used in lowering the bailer to the water and the depth of the water in the bailer should be noted. By deducting the height of the water in the bailer from the total length of line plus the length of the bailer the top of the fluid level can be closely calculated, for the water will enter the bailer only to the height of the fluid outside it in the hole.

When this low fluid level is determined allow the well to stand for a time and then repeat the operation of finding the fluid level. The difference between the low and the high fluid levels will determine the approximate quantity of water that entered the well while it was standing idle. If the water is coming in at a high rate it is possible that the second fluid level may be stationary and represent the height to which the fluid can rise under the existing hydrostatic pressure in the formation that is driving the water into the hole.

In old wells the formation pressure is usually very low and it is quite possible that the pressure driving the water into the hole may exceed formation pressure enough partly to fill the hole, but it is hardly likely that it will completely fill the casing because under such conditions the water would entirely replace the oil and the well would no longer produce.

Knowing the rate of entry of water into the hole it may then be possible to decide whether it is bottom or edge water. It may be possible also to shut off the flow by filling the lower part of the hole with cement, using a dump bailer, a special type of bailer which deposits its load and can be withdrawn empty. After enough cement has been placed in the hole the well should be allowed to stand for a time without producing either oil or water. Then again test the fluid level. If it represents flow of oil from the formation only then the water has been shut off and the repair work completed until such time as the water level rises above the top of the cement plug.

The other problem that your question suggests is a leak in the casing. In that case it is necessary to determine where the water is entering and this is done best by using a casing tester.

The usual procedure to repair a casing leak, if the casing cannot be pulled or if a packer is not run on tubing as a temporary measure, is to bridge the hole a foot or so below the leak, then to establish circulation by pumping in water under pressure at the top of the casing. To "establish circulation" means to cause water pumped down the inside of the casing to flow to the surface between the wall of the drilled hole and the outside of the casing.

When water can be pumped into and out of the hole the next thing to do is to pump in neat cement mixed to a consistency that will permit it to flow, following the same course as that taken by the water.

To prevent accumulation of excess cement in the inside of the casing after enough has entered to fill the annular space between wall of the hole and the outside of the casing it is usual to place a plug on top of the batch of cement. This plug fits the inside of the casing snugly and on top of it water is pumped to force the plug and the cement downward. As the plug moves into the casing the cement below it is forced out of the hole in the casing and into the space back of the casing.

When the plug reaches the bridge previously placed just below the casing leak it will stop, but all of the cement by that time will have been forced out of the inside of the casing and if the quantity introduced has been properly estimated the entire annular space between casing and hole above the casing leak will have been filled with cement and any water formation existing in that zone will be sealed off.

Using the plug above the batch of cement requires special equipment and skill, and it is suggested that specialists in that line of work be engaged.

After the cement has had time to set the wooden plug and the bridge inside the casing may be drilled out and the well should again be ready for production.

If more details are desired it is suggested that you refer to U. S. Bureau of Mines Bulletin 232, "Manual for Oil and Gas Operations," by T. E. Swigart and C. E. Beecher, or U. S. Bureau of Mines Bulletin 163, by F. B. Tough, "Methods of Shutting Off Water in Oil and Gas Wells."

Why Was It Called That?

STEAM

The first use of steam as a motive power is ascribed to Hero of Alexandria, a Greek physicist of the first or second century. He constructed as a curiosity a device in which a hollow metal ball was made to revolve by steam. In 1543 Capt. Blasco de Garay, a Spaniard, is said to have exhibited a steamboat of his own invention in Barcelona Harbor. In 1615 Salomon de Caus, a French engineer, described a steam machine which was merely a contrivance for forcing the water contained in a copper ball through a copper tube by applying heat. Giovanni Branca, an Italian engineer, invented a sort of steam windmill in 1629. The steam, generated in a boiler, was directed by a spout against the flat vanes of a wheel, which thus was set in motion. The word "steam" is from the Middle English "steem," vapor or flame. It is related to the Dutch "stoom," steam.

What Percentage of Air Used in Repressuring Is Emitted?

I want to ask a question that has arisen in a discussion of repressuring programs. Where you use air in repressuring a sand what proportion of the air introduced at the injection well will be emitted with the oil recovered at the casingheads?—N. A. K.

Your question is difficult to answer because the efficiency of an air or gas repressuring operation will vary through a wide range and depend upon many local conditions. Several articles have been published in The Oil and Gas Journal in the last year on flooding and repressuring, and it would be worth your while to read them.

In general it may be said that air introduced into the inlet well will move through the path of least resistance to any place of lower pressure and endeavor to find exit from the formation through the outlet wells.

Because no formation is uniform either in horizontal or vertical section there are wide variations in porosity, permeability, size of sand grains and saturation. Sedimentary formations in which most oil and gas are found are created either by water or air currents carrying the material making up the sedimentary stratas to the place where they now are found.

As these forces of water and air, or rather air in motion (wind) vary through wide ranges in their carrying capacity it has been found that sediments may be made up of particles that were precipitated out of solution up to fairly large rocks that have been moved by high-velocity water currents. Dust storms, such as now known, and muddy streams represents two methods of transporting exceedingly fine particles that when wetted form muds and later compress and dry into shales. Sands of all sizes consolidate to form sandstone and the pore spaces between these sand grains vary widely in size and structure.

Even after a sandstone has been formed by the selective action of water currents there may be a secondary deposition of calcareous and siliceous solutions that will partly fill the pore spaces. The percentage of voids in the various kinds of strata varies, according to Hager in his "Practical Oil Geology." He says: "Sands may contain from 15 to 35 per cent voids; sandstones, 5 to 15 per cent voids; conglomerates may contain as high as 30 per cent voids; shales, from 2 to 10 per cent, and some dolomitic limestones are reported to contain as high as 35 per cent voids. The percentage is so variable that one must not take the material in one field to be a criterion or measure of material in other fields."

It follows that the rate of flow of air under pressure from inlet to outlet wells will vary in rate and volume.

It is good practice to determine in advance of repressuring by air, gas or water flooding the characteristics of the several strata making up the producing formation. This is done by careful coring and having the core samples examined and tested in a laboratory equipped for this kind of work. Permeability is one property of a formation that influences rate of flow of any gas or fluid through its pores. This characteristic is not determined by the type or size of the pores and is now expressed in "darcys." A darcy is the flow of 1 cc. of liquid of 1 centipoise viscosity, 1 cm. through the cross-section area of 1 square cm. in 1 second of time and under a differential pressure of 1 atmosphere.

Eastern Fields

(Continued from Page 61)

feet on the E. S. Ball farm. Justin Cottle and others are drilling at 1,570 feet on the W. A. Davis farm. It is about a half mile east of the test on the Lizzie Moore heirs farm. In Spencer district, D. S. Fisher and others have a location for No. 3 on the Stella V. Knotts farm. In Smithfield district, Jackson and Bowers are drilling on the J. A. and Amy Sarver heirs farm and are down 550 feet. The Spencer Natural Gas Co. has rigged up on the J. D. Young farm. In Spencer district, Henderson Oil Co. has a rig on the Vineyard and Vandevender lease.

Michigan Fields

(Continued from Page 64)

a short time. One Lee Township test also was nearing the Dundee.

Ogemaw County

A bad fishing job for tools, caught in the hole after striking a show of oil in the Dundee, was cleaned up by the use of acid to loosen cavings at a depth of about 2,600 feet in A. R. Nelson, trustee's No. 1 Victor Nelson, NE NE SE Section 33-22n-2e, West Branch Township, Ogemaw County. Two other West Branch Township tests, L. Morris-Van Keuren's No. 2 Fisk, Section 20, and William R. Wells and Joseph Molloy's No. 1 Sarah Ann Moss, SW SW SW same section, were drilling into the Dundee after topping the limestone at 2,447 and 2,564 feet, respectively.

New Locations

In addition to the new locations in the vicinity of the Crystal Township, Montcalm County wildcat, Alma-Mecosta Oil & Gas Co. started a test on a Taggart Brothers, Inc.'s lease in Section 10, Austin Township, Mecosta County.

DEALER ACCOUNTS OPENED

CHICAGO, Apr. 15. — Despite a few feeble attempts to extend it, the moratorium on soliciting dealer accounts in metropolitan Chicago, which had been in effect for several months, expired April 12 without creating much furore in the trade. A fair sized number of accounts were reported changing hands immediately after the ban was lifted on the basis of plans apparently made previously, but there was no turnover on the wholesale basis predicted by some. The moratorium was placed in effect in the late winter quietly and has been generally observed.

Kansas Wildcats

(Continued from Page 62)

D. R. Lauck et al's No. 1 Baller, SW cor. Sec. 29-24-1.
Bldg. rig.

L. W. Prunty et al's No. 1 Davis, NE cor. Sec. 6-22-1w.
Chat 2,922 ft.; drlg. 2,928 ft.

Twin Drlg. Co. et al's (O. J. Connell), No. 1 Roth, SW cor. Sec. 16-22-2w.
C.O. at 1,585 ft.

Wenzel et al's No. 1 Schrag, NW SE Sec. 24-22-3w.
T.D. 587 ft.; S.D. for csg.

McPHERSON COUNTY

Brosius et al's No. 1 Hanson, NE NE SW Sec. 15-17-2w
T.D. 1,108 ft.; S.D.

Carey & Miller's No. 1 Husband, SE SE NW Sec. 6-19-3w.
Moving in material.

Lario O & G. Co.'s No. 1 Base, SW cor. Sec. 22-20-2w.
Wilcox 2,495 ft.; H.F.W. 3,505-10 ft.; drlg. by tools at 3,519 ft.

W. C. McBride's No. 1 Mugler, SE SW SW Sec. 22-20-3w.
K.C. 2,430-51 ft.; U.R. 10-in.

Palmer Oil Corp.'s No. 1 Swenson, NE NE SW Sec. 11-18-3w.
K.C. lime 2,370 ft.; 2,455 ft. H.F.W.; T.D. 2,620 ft.; U.R. 8-in. csg.

Shell Pet. Corp.'s No. 1 Wenger, NE cor. Sec. 3-20-1w.
Base Mississippi lime 3,116 ft.; Viola 3,356-64 ft., T.D.; good show oil; R.U. cable tools.

Stafford et al's No. 1 Krehbiel, NW NW SE Sec. 27-21-3w; (O.W.D.D.).
C.O. at 2,080 ft. and S.D.

NESS COUNTY

Phillips Pet. Co.'s No. 1 Young, C NW SW Sec. 13-18-21w.
K.C. lime 3,640 ft.; T.D. 3,649 ft.; R.U. cable tools.

OSAGE COUNTY

Jim Edwards' No. 1 Detrick, C NW SE Sec. 21-14-15.
Fishing at 798 ft.

PAWNEE COUNTY

Atlantic Oil Prod. Co.'s No. 1 Siepake, C NE NE Sec. 15-23s-17w.
Drlg. 980 ft.

RENO COUNTY

Bradley's No. 1 Olmsted, SW SW SW Sec. 32-22-7w.
Moving in material.

Foraker et al's No. 1 Hiett, SE SW NE Sec. 34-24-4w.
T.D. 1,285 ft.; S.D.

Privett Drlg. Co.'s No. 1 Crotts, NE NW NE Sec. 27-26-10w
Viola 4,240 ft.; wtr.; Simpson (corrected) 4,325 ft.; fishing 4,338 ft.

RICE COUNTY

Allison & Fitzwilliams et al's No. 1 Stumpa, NW NW SW Sec. 4-18-10w.
Siliceous lime 3,229-61 ft., T.D.; est. 40 bbls. oil daily on swab; acidizing.

Day et al's No. 1 Mason, NW NE NE Sec. 28-21-7w.
Drlg. 1,000 ft.

Foraker, Nickerson et al's No. 1 Lyons, SE NW Sec. 27-20-8w
K.C. lime 2,916 ft.; H.F.W. 3,030-35 ft.; show oil and gas 3,100-05 ft.; T.D. 3,368 ft.; U.R. 5-in. csg.

Gypsy Oil Co.'s No. 1 Koesling, NW NW SW Sec. 10-20-9w.
Set 5-in. csg. 3,240 ft.; Siliceous 3,239-61 ft.; swb. 3 bbls. oil per hr.; acidized and pumped 48 bbls. oil in 7 hrs.; D.D. to 3,-263½ ft.; pumped 201 bbls. oil in 24 hrs.; acidizing.

Fred Rust et al's No. 1 Brown, NE cor. Sec. 16-21-6w.
Ponds.

Vickers Pet. Co. et al's No. 1 Gouldner, SE NE NW Sec. 16-18-9w
U.R. 10-in. csg. 2,060 ft.

ROOKS COUNTY

Smith & Ash's (Carman & Hershey) No. 1 Nelson, NW NW NE Sec. 27-10-16w.
Rigging up.

Stearns & Streeter's No. 1 Hoskins, SE SW SE Sec. 34-9-16w.
Acidized; pumped 120 bbls. oil from Oswald lime 3,034-3,106 ft.; pumping 25 bbls. oil daily; C.O. at 3,341 ft.

Trees Oil Co. and Findeiss' No. 1 Johnson, SW SW SE Sec. 36-10-19w.
Spud.

RUSH COUNTY

P. Boyle et al's No. 1 Yost, C SW SW Sec. 23-17-18w.
Rigging up.

Lario O. & G. Co. and Phillips Pet. Co.'s No. 1 Benbow, NW NE NE Sec. 12-17-19w.
T.D. 3,790 ft.; fishing.

Morgan & Flynn's No. 1 Schlegel, SE SE NW Sec. 26-17-16w.
Salt 1,550 ft.; S.D. 1,730 ft.

RUSSELL COUNTY

J. Brouk and R. D. Bailey's No. 1 Kluesner, NW SE Sec. 34-15-12w.
Rigged up.

Hartman & Blair's No. 1 Hildebrandt, NW NE SW Sec. 12-14-14w.
Drlg. 2,750 ft.

Murphin et al's No. 1 Funk, SW cor. Sec. 19-12-13w.
Fishing at 3,040 ft.

Ryan Pet. Co.'s No. 1 Newbold, NW SE NE Sec. 25-12-15w.
Drlg. 1,275 ft.

Vernon & Murphin's No. 1 Becker, NE cor. Sec. 32-15-13w.
Rigging up.

Wakefield & Armer's No. 1 Hall, NE SE SW Sec. 36-14-15w.
Bldg. rig.

Winkler & Koch's No. 1 Herman, SE NW Sec. 27-12-15w.
Spud and S.D.

Wolf Creek Oil Co. et al's No. 1 Penn Mutual, SW cor. Sec. 22-15-15w.
Drlg. 985 ft.

SALINE COUNTY

Dieter et al's No. 1 Herrington, NE NW SE Sec. 2-13-1w
Viola 3,085 ft.; T.D. 3,187 ft.; S.D.

SEDGWICK COUNTY

Allison & Fitzwilliams et al's No. 1 Struthers, NE SW Sec. 34-28-2w.
H.F.W. 3,176-87 ft.; T.D. 3,295 ft.; fishing.

Magnolia Pet. Co.'s No. 1 Bartholomew, SE SE SW Sec. 30-27-4w.
Chat 3,682 ft.; 9-in. 3,692 ft.; standardizing.

Western Kansas O. & R. Co.'s No. 1 Betzen, SE NE Sec. 17-26-3w.
Drlg. 1,811 ft.

SCOTT COUNTY

Atlantic Oil Prod. Co.'s No. 1 Mark "A," C SE SE Sec. 28-20-33w.
Rigging up.

STAFFORD COUNTY

Lario O. & G. Co.'s No. 1 Tudormorgan, SE SE NW Sec. 23-24-13w.
K.C. lime 3,508 ft.; T.D. 3,597 ft.; 2,500 ft. of oil in hole.

SUMNER COUNTY

Shell Pet. Corp.'s No. 1 Green, SE SW NW Sec. 3-32-2.
Stalnacker 2,237 ft.; 2,240 ft. show oil; 2,290 ft., H.F.W.; U.R. 10-in. csg.

Wakefield et al's No. 1 Newton, SE cor. Sec. 21-30-2.
Rig.

D. J. Wilson et al's No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW Sec. 15-35-1w.
Rigging up.

TREGO COUNTY

Central Commercial's No. 1 Wagg, NW NW SE Sec. 17-13-21w.
T.D. 1,600 ft.; fishing.

Hansa & Lauck and Olson Drlg. Co.'s No. 1 Lang, SE SE NW Sec. 1-14-21w.
Ponds.

Jenmar Oil Co.'s No. 1 Jones, SE cor. Sec. 20-12-23w.
Oswald lime 3,790 ft.; T.D. 3,880 ft.; 7-in. csg. 3,861 ft.; R.U. cable tools.

WOODSON COUNTY

Kite et al's No. 1 Gorman, NE NW Sec. 18-25-14e.
Drlg. 1,576 ft.

Gulf Coast Wildcats

(Continued from Page 58)

center of W 5 acres of Lot No. 28, H.T.&B. Sur. No. 23.
Bldg. derrick.

Texas Co.'s No. 2 Gulf Coast Home Co., 347 ft. S, 441 ft. W from NE cor. of Lot 38, H.T.&B. Sur. No. 2-B.
Rigging up.

Bowles & Borsodi's No. 2 Norvell Investment Co., C of Lot 57, H.&T.C. Sur.
7-in. csg. 5,604 ft.; T.D. 5,682 ft.; made 11 bbls. per hr. then went dead; swbng.

J. W. Sorrells' No. 1 Swift, Blk. 21, Abst. 318, H. N. Little Sur.
Derrick.

Sterling O. & R. Co.'s No. 1 W. A. Gamble, 300 ft. from E line and center N and S of Lot 78, E. Little Sur.
Drlg. shale 5,940 ft.

Texas Co.'s No. 14-B Belcher, 660 ft. S 42 deg. W from No. 9-B Belcher, H. N. Little Sur.
Location.

Texas Co.'s No. 1 O. W. Halligan, center of Lot 27, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 2 O. W. Halligan, center of Lot 26, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 3 O. L. Rash, 920 ft. S, 48 deg. E and 330 ft. S, 42 deg. W from N cor. of Lot No. 22, T. Spraggin Sur.
Location.

Texas Co.'s No. 2-A H. J. Wray, 330 ft. from N line and 990 ft. W of E line of lease.
Location.

Texas Co.'s No. 4 A.R.G.G.H., 442 ft. W and 247.5 ft. S of NE cor. Lot 36, H.T.&B. Sur., Sec. 23.
10-in. csg. 1,150 ft.; T.D. 1,168 ft.

Texas Co.'s No. 11-A Belcher, 990 ft. W and 330 ft. N of SE cor. of H. N. Little Sur.
Coring oil sand 4,004 ft.

Texas Co.'s No. 9 Houston Oil Field Assn., 263 ft. N of SW line and 330 ft. NW of SE line, Blk. 1, A.C.H.&B. Sur.
Drlg. sandy lime 3,966 ft.

Texas Co.'s No. 17 Houston Oil Fields Assn., 244 ft. S, 244 ft. W, from NE cor. of Lot 1, A.C.H.&B. Sur. No. 91.
Location.

Texas Co.'s No. 16 Houston Oil Fields Assn., 247 ft. S, 440 ft. E from NW cor. of Lot 19, A.C.H.&B. Sur., No. 91.
Location.

Texas Co.'s No. 2 Dawson, 247 ft. S, 241 ft. W of NE cor. of Lot 58, H.T.&B. Sur. No. 23.
Location.

Texas Co.'s No. 1 L. C. Dawson, 247 ft. S, 441 ft. W of NE cor. of Lot 49, H.T.&B. Sur. No. 23.
Running 7-in. csg.; T.D. 4,035 ft.; I.P. 14 bbls. first 12 hrs.; tubing pressure 700 lbs.

Texas Co.'s No. 2 Dawson, 247 ft. S, 441 ft. W of NE cor. Lot 48, H.T.&B. Sur. No. 23.
7-in. csg. 5,618 ft.; T.D. 5,641 ft.

Texas Co.'s No. 3 F. Lieder, 247.5 ft. S and 247.5 ft. E of NW cor. of Lot No. 3, A.C.H.&B. Sur.
Drlg. gumbo and lime 2,448 ft.

Trumba Oil Co.'s (J. M. Campbell) No. 1 H. McCauley, 150 ft. each way out of NE cor. of W 5 acres of Lot No. 2, A.C.H.&B. Sur. No. 91.
Location.

PLEDGER—BRAZORIA COUNTY

Humble O. & R. Co.'s No. 1 T. L. Smith, 1,283 ft. NE from W cor. of 85.86-ac. lease, thence 887 ft. SE at R/A, D. McNeel Sur.
Rig up.

PORT LAVACA—CHIHOUN COUNTY

Texas Co.'s No. 1 I. Blardone, 1,650 ft. from E line and 1,350 ft. from N line of lease, Samuel Shupe Sur.
Moving in material.

Texas Co.'s No. 1 R. Duelberg, 1,565 ft. NE along S line from SW cor. of lease and 390 ft. N at R/A, M. Sanches Sur.
Derrick.

Texas Co.'s No. 1 J. A. Marten, 1,700 ft. SW along N line from NE cor. and 1,400 ft. at R/A in SE direction, Florentina Garcia League Sur.
Location.

Texas Co.'s No. 1 H. C. Wehmeyer, 900 ft. NW along W line from upper SW cor. of lease, and at R/A NE 1,213 ft., M. Sanches Sur.
Location.

Halliburton Oil Prod. Co.'s No. 1 Bruton, 660 ft. due E of Steinberger Pet. Co.'s No. 1 Ishofner, M. Sanches Sur.
Derrick.

STRATTON RIDGE—BRAZORIA COUNTY

Amerada Pet. Corp.'s No. 1 Seider & State, 225 ft. due N of No. 3.
Fishing 4,755 ft.

Thompson Drlg. Co.'s No. 1 Seaburn Est., Austin & Williams one-half league.
T.D. 4,770 ft.; stuck drill pipe at 4,300 ft.; sidetracking.

WEST COLUMBIA—BRAZORIA COUNTY

Sterling O. & R. Co.'s No. 4 Hogg, 200 ft. S of No. 1, 50 ft. from W line of lease, Martin Verner Sur.
T.D. 5,298 ft.; cmt. back to 4,850 ft.; drilled out cmt. to 5,190 ft.; S.D.

Texas Co.'s No. 84 Hogg, 2,483 ft. N, 50 ft. W from SE cor. of lease, M. Varner Sur.
Temporarily S.D. 5,242 ft.

ANA HUAC—CHAMBERS COUNTY

Humble O. & R. Co.'s No. 1 Broussard, 466 ft. from W line, 466 ft. from N line, Sec. 63, H.&T.C. Sur.
16-in. csg. 145 ft.

Humble O. & R. Co.'s No. 1 J. J. Clark, 466 ft. N of S line and 466 ft. W of E line of H.&T.C. Sur., Sec. 64.
10¾-in. csg. 2,346 ft.

Humble O. & R. Co.'s No. 2 Middleton, 466 ft. out of NE cor. of H.&T.C. Sur., Sec. 64.
Derrick.

BARBERS HILL—CHAMBERS COUNTY

Humble O. & R. Co.'s No. 5-B Kirby, 300 ft. N of No. 2, 100 ft. W of E line, Henry Griffith League.
Setting screen and liner; T.D. 5,040 ft.

McAlbert Oil Co.'s No. 3-B Heggins, 50 ft. S of N line and 50 ft. E of W line.
Drlg. hard lime 3,378 ft.

Sun Oil Co.'s No. 1 Higgins, 50 ft. S of N line, 50 ft. W of E line.
Rig up.

Sun Oil Co.'s No. 11 Chambers County, half way between and in line with Nos. 9 and 10.
Drlg. sandy shale 1,300 ft.

Texas Gulf Prod. Co.'s No. 3 Fitz, 450 ft. E of W line, 75 ft. N of S line.
Drlg. salt 1,507 ft.

Texas Gulf Prod. Co.'s No. 13-A Kirby, 613 ft. N of S line, 85 ft. W of E line, W of Humble O. & R. Co.'s No. 8-B Kirby.
Drlg. salt 1,742 ft.

Texas Gulf Prod. Co.'s No. 2 Morgan Fitzgerald, 400 ft. N of S line, C of Strip No. 3.
Cutting and pulling 7-in. csg. 5,107 ft.

Texas Gulf Prod. Co.'s No. 2 Fitz-Meadows, 281 ft. S of N line, 50 ft. W of E line of Lot of T. S. Fitz lot.
Drlg. salt 1,742 ft.

Yount Lee Oil Co.'s No. 28 Chambers County, 50 ft. N of S line, direct offset to Sun's No. 10 Chambers County, Wm. Bloodgood Sur.
Drlg. salt 3,223 ft.

Yount Lee Oil Co.'s No. 30 Chambers County School Land, 50 ft. N of S line, direct offset to Sun Oil Co.'s No. 11.
Derrick.

Yount Lee Oil Co.'s No. 7 Phillips (W.O.), 100 ft. W of No. 8, Wm. Bloodgood Sur.
Coring sand 5,239 ft.

BIG CREEK—FORT BEND COUNTY

Trans-State Oil Co.'s No. 2 Ahlers, 85 ft. N of Gulf Stream, Inc.'s No. 1 Ahlers, Michael Young Sur.
Drlg. 1,510 ft.

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BOLING—FORT BEND COUNTY

Allied Minerals, Inc.'s No. 1 E. C. Farmer, James Scott League, 750 ft. SE of NW line and 150 ft. SW of NE line of Gulf Prod. Co.'s E. C. Farmer 50-ac. tract.
Abd. 5,543 ft.

Irwin Larsen et al's No. 1 J. R. Farmer, 100 ft. NW and 100 ft. SW from E cor. of 125-ac. lease, James Scott Sur.
Location.

Midland Oil Co.'s No. 1 P. F. Coulter, 150 ft. from S line, 4,174 ft. from W line of 100-ac. tract, Miller League No. 3.
Set screen; T.D. 4,186 ft.

Navarro Oil Co.'s No. 2 H. R. Farmer, 363 ft. from SW line and 160 ft. from SE line of Humble O. & R. Co.'s lease, James Scott Sur.
Location.

Trans-State Oil Co.'s No. 1 Dipple, 480 ft. from NW and 347 ft. from SW lines of 33-ac. tract, E flank of dome.
Drlg. heaving shale 4,394 ft.

Yew Development Co.'s No. 1 C. E. Farmer, 600 ft. S and 325 ft. W of the NE cor. of 50-ac. lease, James Scott Sur.
Location.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 42 Moore, 345 ft. S. 305 ft. W of SW cor. of E.M.G. Co. Sur.
Coring sand and cap rock 1,988 ft.

Gulf Prod. Co.'s No. 43 Moore, 350 ft. E along S line of SW cor. of E.M.&G. Co. Sur. and 740 ft. N at R/A to said line of lease, 350 ft. E of No. 3 Moore.
Drlg. shale 2,430 ft.

THOMPSON—FORT BEND COUNTY

Gulf Prod. Co.'s No. 2 S. B. Gehr, 340 ft. from S line, 571 ft. E from Gulf Prod. Co.'s No. 1 S. B. Gehr, S. Kennedy Sur.
Location.

Gulf Prod. Co.'s No. 8 Hammerstram, 1,336 ft. from S line, and 2,436 ft. from W line of lease, S. Kennedy Sur.
Derrick.

Gulf Prod. Co.'s No. 1-B Gehr, 340 ft. from S line of lease, 640 ft. E of Naylor Oil Co.'s No. 7 Gehr, L. Kennedy Sur.
T.D. 5,365 ft.; I.P. 210 bbls. in 24 hrs. through ⅝-in. choke; tubing pressure 225 lbs.

Humble O. & R. Co.'s No. 12 Booth, 281 ft. from N line of lease, 1,550 ft. W of No. 11, John Rabb Sur.
10¾-in. csg. 938 ft.; drlg. lime 2,031 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 24 Cade.
T.D. 6,063 ft.; cutting and pulling liner.

Yount Lee Oil Co.'s No. 16 Smith.
Coring sandy shale 5,796 ft.

Yount Lee Oil Co.'s No. 1 Acon & Hughes, 85 ft. E of No. 1 Pabst, on a 3.82-ac. tract, M. Dunman Sur.
Building derrick.

Yount Lee Oil Co.'s No. 1-A Lockhart, 85 ft. W of No. 1 Pabste, on a 5.23-ac. tract, M. Dunman Sur.
Location.

Yount Lee Oil Co.'s No. 45 Cade.
T.D. 5,211 ft.; 7-in. csg. 5,186 ft.

Yount Lee Oil Co.'s No. 1-A Gordon-Viterbo, 122 ft. E of W line, 326 ft. S of N line of Lot 1, Martin Dunman Sur.
Coring sand and shale 3,934 ft.

Yount Lee Oil Co.'s No. 1 Loustalbot, 300 ft. from N line, 121 ft. from E line of Lot No. 3, offset to No. 2 Stewart, Martin Dunman Sur.
Drlg. sand and shale 3,820 ft.

Yount Lee Oil Co.'s No. 1 F. C. Pabst, 1,186 ft. S of N line and 1,186 ft. E of W line of Lot 32, Martin Dunman Sur.
7-in. csg. 4,912 ft.; I.P. 590 bbls. in 24 hrs.; T.D. 4,935 ft.

DICKINSON—GALVESTON COUNTY

Humble O. & R. Co.'s No. 3-A Stewart, 338 ft. S of easterly NE cor., 2,016 ft. W of easterly E line, 425 ft. S of S line of Bayou, John Sellers Sur.
10¾-in. csg. 1,975 ft.; drlg. sandy shale 6,143 ft.

Humble O. & R. Co.'s No. 2-A Mace Stewart, 3,324 ft. S along E line of S bank of Bayou and 566 ft. W of E line at R/A, John Sellers Sur.
Rig up.

Humble O. & R. Co.'s No. 1 Schaper, C 8½ of Blk. 15, or on line between Lots 3 and 4 and center N and S. W. K. Wilson Sur.
Coring hard sand 9,111 ft.; recovered 10 thribbles oil sand and 43 thribbles S.W. on D.S. test from 8,676-8,916 ft.

Humble O. & R. Co.'s No. 1 A. F. Danielson, C of 20-ac. tract, Lots 5 and 6, C. A. Anderson Subd. of Lot 15, of the Righter Subd., John Sellers Sur.
Coring hard shale; no show 9,282 ft.

Turnbull & Irwin's No. 1 J. Piazza, 460 ft. W and 250 ft. S of Humble O. & R. Co.'s No. 1 Jones, J. S. Sherman Sur.
Rig up.

ARRIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 6-X fee, 400 ft. SE of No. 4-X, 500 ft SE of No. 5-X fee.
Rig up.

Houston Oil Co. and Republic Prod. Co.'s No. 5-X fee, E Arriola Sur.
T.D. 3,234 ft.; I.P. 210 bbls. in 24 hrs.

Republic Prod. Co's No. 11 fee, E. Arriola Sur.
Drlg. shale 3,110 ft.

BATSON—HARDIN COUNTY

Sterling O. & R. Co.'s No. 1 Doucette, 565 ft. N from NE cor. of Nunn tract thence 565 ft. E at R/A, Wm. Donoho Sur.
Drlg. shale and lime 4,230 ft.

John Deering's No. 1 Bullock, 1,000 ft. N, 17 ft. E of middle line of 30-ac. tract, Bullock tract, Dondo Sur.
Drlg. sand 4,594 ft.

John Deering's No. 2 Hooks.
Abd. 1,720 ft.

John Deering's No. 2 Cruse, 200 ft. E and 50 ft. S of No. 1 Cruse, W. Donaho Sur.
Rig up.

John Deering's No. 3 Hooks, 200 ft. E of Cruse and Hooks' dividing line and 50 ft. S of straight line from No. 1 Cruse and No. 2 Hooks, W. Donoho Sur.
Drlg. shale 4,030 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 11-N Jordit, 300 ft. due W of No. 11-R Jordit.
Clearing location.

SOUR LAKE—HARDIN COUNTY

Arlis Pet. Co.'s No. 1 Harkan and Langham.
Dig pits.

Alpha Pet. Co.'s No. 2-A Wm. Weiss, 100 ft. W of No. 2.
Abd. 6,808 ft.

Texas Co.'s No. 319 fee, S 44 deg., 42 ft., W 300 ft. from No. 265 and 400 ft. from No. 318.
Drlg. rock 844 ft.

HUMBLE—HARRIS COUNTY

Sun Oil Co.'s No. 73 River, 2,757 ft. N of S line and 175 ft. E of W line of 293-ac. lease, Robert Dunman Sur.
Coring oil sand 1,231 ft.

Sun Oil Co.'s No. 29 Bender.
13¾-in. csg. 765 ft.; drlg. shale 2,348 ft.

Texas Co.'s No. 31 Humble, 300 ft. due south of No. 28.
Location.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 39 Taylor, 1,729 ft. S. 75 ft. W of NE cor. of J. Hampton Sur.
Location.

Gulf Prod. Co.'s No. 21 Taylor.
Location.

Rio Bravo Oil Co.'s No. 27-A Settegast, 377 ft. S. 553 ft. W of NE cor. of Settegast "A" tract, James Hamilton Sur.
Standing 5,526 ft.

Rio Bravo Oil Corp.'s No. 9-A Settegast. 1,575 ft. N line, 350 ft. E line NE cor. "A" lease, J. A. Kopman Sur.
T.D. 5,411 ft.; standing.

MYKAWA—HARRIS COUNTY

West Prod. Co.'s No. 1 T. F. Reed, 493 ft. from E line and 270 ft. from N line of lease, F. J. Rothas Sur., Abstract 667, Blk. 8.
Flowing 30 bbls. per hr. showing some S.W.

TOMBALL—HARRIS COUNTY

Continental Oil Co.'s No. 3 Petrich, J. House Sur.
Drlg. shale 5,326 ft.

Humble O. & R. Co.'s No. 1 Schultz, 550 ft. from S line, 356 ft. from W line of 42.05-ac. tract, J. House Sur.
Drlg. shale 3,880 ft.

Humble O. & R. Co.'s No. 1 Tom Ball townsite, Unit No. 1, 25 ft. from SW line, 25 ft. from NE line of Lot No. 1, Blk. 22, Wm. Hurd Sur.
Coring sand 5,608 ft.

Humble O. & R. Co.'s No. 5-A Quilter, 980 ft. from S line, 466 ft. from W line of 300-ac. tract, A. Senchel Sur.
Top sand 5,546 ft.; T.D. 5,558 ft.; 7-in. csg. 5,553 ft.; swabbing.

Humble O. & R. Co.'s No. 1 Stallones, 505 ft. from E line, 365 ft. from N line, J. Hooper Sur.
7-in. csg. 5,569 ft.; T.D. 5,574 ft.; I.P. 660 bbls. per day through ¼-in. choke; tubing pressure 850 lbs.

Humble O. & R. Co.'s No. 1 Michel, 510 ft. from N line, 466 ft. from W line of lease, Wm. Hurd Sur.
Drlg. shale 590 ft.

Humble O. & R. Co.'s No. 1 C. H. Mueller, 549 ft. from S line of lease, 560 ft. W of SE cor. of M. J. Kuehn tract, T. A. Ducose Sur.
10¾-in. csg. 935 ft.; drlg. shale 3,135 ft.

Humble O. & R. Co.'s No. 8 Reid, 1,770 ft. from W line of lease, G. Goodrich Sur.
10¾-in. csg. 939 ft.

Texas Co.'s No. 3 Ziegler, 1,449 ft. E of W line and 446 ft. S of N line of lease, 930 ft. E of No. 1.
T.D. 5,618 ft.; sidetracked 4,360 ft.

KITTRELL—HOUSTON AND WALKER COUNTIES

Humble O. & R. Co.'s No. 9 Shaw, 660 ft. NE of No. 4, 330 ft. from NE line, C. McEllis Sur.
10¾-in. csg. 309 ft.; drlg. 1,900 ft.

Sun Oil Co.'s No. 3 Huffman, C. McEllis Sur.
Drlg. 1,910 ft.

VANDERBILT—JACKSON COUNTY

Imperator Oil Co.'s No. 1 Dutton, S C of Lot No. 11, Blk. 25, 450 ft. S of R.R. and 1,350 ft. W line of townsite, Ray Musquiz Sur.
Rigged up and S.D.

Turman Oil Co.'s No. 1 T. H. Miller, 150 ft. each way out of E 50 ac. of Miller 100-ac. tract in Ray Musquis Sur.
Rigging up.

BIG HILL—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 1-A Pipkin, 2,640 ft. S and 2,650 ft. W of NE cor. of survey.
T.D. 6,279 ft.; abd.

Yount Lee Oil Co.'s No. 1-B Pipkin & Davis, 2,225 ft. from E line and 2,385 ft. from N line of survey, Wm. McFadden Sur.
Rig up.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 8 Burrell, 750 ft. N from SW cor. of C. W. Burrell's 232-ac. tract and 100 ft E at R/A.
Drlg. sand and shale 3,369 ft.

CLEVELAND—LIBERTY COUNTY

Black Gold Pet. Oil Corp.'s No. 2 R. D. McDonald, 466 ft. W of most westerly E line and 466 ft. N of most northerly S line of survey, 933 ft. W of Gulf Prod Co.'s No. 7-C Kirby Lbr. Co., T. Devers Sur.
Derrick.

William J. Colegrove et al's No. 1 State School Land & Dev. Co., 446 ft. from W line and 176 ft. from S line of survey, Clayton Harper Sur.
Location.

Gulf Prod. Co.'s No. 1 R. D. McDonald, 467 ft. from N and E lines of lease and survey, Chas. Smith Sur.
T.D. 5,824 ft.; flowed 30 bbls. of fluid first 12 hrs. through ⅝-in. choke; tubing pressure 1,675 lbs.; csg. pressure 1,975 lbs.

ESPERSON—LIBERTY COUNTY

General Crude Oil Co.'s No. 21 Esperson.
Coring sand 4,858 ft.

General Crude Oil Co.'s No. 1 W. D. Kay Malcolm Duncan Sur., 1,537 ft. along N T.D. 6,655 ft.; P.B. to 5,900 ft.; now reaming at 6,375 ft.; no report.

General Crude Oil Co.'s No. 10 Davis, 2,000 ft. from E line, 660 ft. from S line of D. Kokernut Sur.
T.D. 5,830 ft.; tested S.W. from 5,812-22 ft.

HANKAMER—LIBERTY COUNTY

Cretaceous Oil Co.'s No. 2 S. E. Ezzell, 150 ft. S of N line, 100 ft. W of E line of Ezzell's 75-ac. tract, Levi Barrow Sur.
T.D. 2,582 ft.; 7-in. csg. 2,561 ft.

Eljean Oil Co.'s No. 1 Ezzell, 1,325 ft. from N, 150 ft. from E line of Ezzell 175-ac. tract.
Fishing; T.D. 1,543 ft.

Gulf Prod. Co.'s No. 1-B W. L. Bingle, 159 ft. E along S line of H.&T.C. Sur., thence 378 ft.
Location.

Gulf Prod. Co.'s No. 1 Hankomer, 350 ft. W, 420 ft. N of SE corner of George Stingler Survey.
T.D. 4,283 ft.; to survey hole.

Jones Drlg. Co.'s No. 1 Ezzell, 1,050 ft. S of N line, 150 ft. W of E line of Levi Barrow Sur.
10-in. csg. 195 ft.; drlg. shale 310 ft.

Will Strozier et al's No. 1 Ezzell, 700 ft. N of S line, 150 ft. W of E line of Levi Barrow Sur.
Derrick.

Wilson-Broach Oil Co.'s No. 1 Barrow, 150 ft. N of S line, 100 ft. W of E line, W. M. Crook et al, Levi Barrow Sur.
7-in. csg. 2,550 ft.; I.P. 350 bbls.; T.D. 2,624 ft.

HULL—LIBERTY COUNTY

G. R. Brown and S. F. Bashara's No. 1 David Hannah, Jesse Devore league, 300 ft. S line, 150 ft. E line, 42-ac. Gulf tract
Derrick.

Republic Prod. Co.'s No. 145 Dolbear, Jesse Devore.
S.D. 2,734 ft.

Republic Prod. Co.'s No. 155 Dolbear, Jesse Devore Sur.
Rig up.

Gulf Prod. Co.'s No. 107 Phoenix, 400 ft. W of No. 106, and 400 ft. N of No. 103, J. Devore Sur.
Drlg. shale 2,810 ft.

Texas Co.'s No. 3 Barrow.
6⅝-in. csg. 3,819 ft.; S.D. 4,355 ft.; T.A.

Texas Co.'s No. 6 Barrow, 383 ft. S and 150 ft. W from NE cor. of tract, J. Devore Sur.
Sidetracked at 4,140-4,233 ft.; T.D. 4,236 ft.

MARKHAM—MATAGORDA COUNTY

Superior O. & G. Co.'s No. 1 Hawk, W. H. Gainor Sur., west flank of dome.
T.D. 4,213 ft.; 7-in. csg. 4,185 ft.; cored oil sand 4,200-10 ft.

MOSS BLUFF—LIBERTY COUNTY

Gulf Coast Sulphur Co.'s No. 1 McManus, 588 ft. from E, 1,650 ft. from N line of W. A. tract, B. M. Spinks Sur.
Location.

CONROE—MONTGOMERY COUNTY

Humble O. & R. Co.'s No. 1 Bailey, 1,100 ft. SW from NE cor. of Alex McCowan Sur. and 466 ft. from S line R. Kuykendahl Sur.
10¾-in. csg. 987 ft.; drlg. shale and lime 1,000 ft.

Humble O. & R. Co.'s No. 6 Pfaefflin, 413 ft. N of No. 1, 633 ft. from W line of lease, Wm. Real Sur.
T.D. 5,122 ft.; 7-in. csg. 5,121 ft.; I.P. 58 bbls. per hr. through ½-in. choke; tubing pressure 475 lbs.; csg. pressure 550 lbs.

Sun Oil Co.'s No. 32 Foster.
Rig up.

Sun Oil Co.'s No. 3 McDonald.
Rig up.

SPLENDORA—MONTGOMERY COUNTY

Bryce McCandless et al's No. 1 Texas Long Leaf Lbr. Co., 320 ft. from N and E lines of the W½ of Blk. No. 8, Walker County School Land Sur.
Derrick.

ORANGE—ORANGE COUNTY

Trio Oil Co.'s No. 1 D. S. Comier, 69 ft. W of E line and 39 ft. S of N line of 6.88-ac tract in W. M. Dyson Sur.
S.D. 2,720 ft.

Quintana Oil Co.'s No. 2-B O'Connor, 500 ft. from W line, 260 ft. from S line of M. L. White Sur.
Drlg. shale 9,998 ft.

PORT NECHES—ORANGE COUNTY

Port Neches Pet. Corp. et al's No. 1 W. B Organ, 450 ft. from NE line and 150 ft. from NW line of A. Schramm Sur., S of Port Neches Field.
Abd. 6,103 ft.

Texas Co.'s No. 3-B Polk, 200 ft. S. 450 ft W of SE cor. of Mary E. Hall Sur. No. 3.
T.D. 5,933 ft.; pulled in derrick.

Texas Co.'s No. 3 Orange National Bank 750 ft. S of N line and 295 ft. E of W line of lease, Jacob Beaumont Sur
T.D. 6,377 ft.; sidetracked at 4,602 ft.; T.D. 4,052 ft.

Texas Co.'s No. 4-B Polk, 750 ft. S and 1,450 ft. W from NE cor. of lease, Jacob Beaumont Sur.
Location.

Texas Co.'s No. 5-B Polk, 750 ft. S and 850 ft. W from NE cor. of lease, Jacob Beaumont Sur.
Moving in material.

Texas Co.'s No. 6-B Polk, 750 ft. S and 350 ft. W from NE cor. of lease, Jacob Beaumont Sur.
Location.

LIVINGSTON—POLK COUNTY

C. & C. Drlg. Co. et al's No. 1 E. A. Watts, 330 ft. NS line, and midway between E and W lines of 124-ac. tract, A. Viesca Sur.
T.D. 4,237 ft.; 7-in. csg. 4,224 ft.; flowed 5½ bbls. per hr.; tubing pressure 1,425 lbs.; csg. pressure 1,300 lbs.

Gem Oil Co.'s No. 6 Davis & Holmes, 653 ft. from W and 662 ft. from N line of survey, A. Viesca Sur.
Rig up.

Gem Oil Co.'s No. 7 Davis & Holmes, 1,050 ft. from E line, 800 ft. from N line of lease, A. Viesca Sur.
Moving in.

Johnson & Johnson's No. 1 I. B. Munson, 330 ft. from S and E lines of 26.12-ac. tract, A. Viesca Sur.
Location.

Werby and Refugio Oil Corp.'s No. 5 Dick & Failing, 330 ft. E of W line of tract, 550 ft. N of No. 1, A. Viesca Sur.
Drlg. shale 3,685 ft.

SAN FELIPE—WALLER COUNTY

Buck Oil Co.'s No. 1 Vaughn, 660 ft. due E of Seaporton Co.'s No. 1 Vaughn, J. McFarland Sur.
Location.

GRETA—REFUGIO COUNTY

Hewitt & Daugherty, 466 ft. from N line, 506 ft. from E line of Hardwick Sur.
Drlg. shale 4,210 ft.

Hewitt & Daugherty's No. 12 Lambert.
Rig up.

Humble O. & R. Co.'s No. 19 Heard, 466 ft. from N line, 466 ft. from W line of John Peoples Sur.
7-in. csg. at 4,377 ft.; R.U. to pump.

Humble O. & S. Co.'s No. 1 Marberry, 4,558 ft. from S line, 466 ft. from W line of John Denn Sur.
Drlg. shale 2,967 ft.

Stanolind O. & G. Co.'s No. 5 O'Connor.
Drlg. 4,365 ft.

Standard Oil Co. of Kansas.
7-in. csg. 4,351 ft.; T.D. 4,371 ft.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 21 P. H. Rooke, Thomas Mullen grant, 990 ft. from E line, 697 ft. SW from No. 18.
T.D. 4,917 ft.; completing.

Houston Oil Co.'s No. 22 P. H. Rooke, 660 ft. from No. 19, 690 ft. from No. 20.
Moving in material.

Houston Oil Co.'s No. 23 Rooke, 660 ft. W of No. 19.
Set surface csg. 984 ft.; W.O.C.

United Gas Co.'s No. 18 Lambert.
W.O.C. 3,518 ft.

United Gas Co.'s No. 19 Lambert.
W.O.C. 3,502 ft.

United Gas Co.'s No. 17 Lambert.
W.O.C. in sand 4,381 ft.

CLAY CREEK—WASHINGTON COUNTY

Sun Oil Co.'s No. 1 Smith.
Reaming 1,182 ft.

McFADDIN-O'CONNOR DISTRICTS—VICTORIA AND REFUGIO COUNTIES

Texas Co.'s No. 9 McFaddin, 1,850 ft. N. 2 deg., 45 ft. S from No. 2.
13⅜-in. csg. 824 ft.; drlg. shale and lime 2,105 ft.

LOUISE—WHARTON COUNTY

Pure Oil Co.'s No. 1 John Macha, 318 ft from NW line and from SE line of F. Walnut Sur., and 467 ft. from NE line of 101.53-ac. lease, M.&C. Sur. No. 25.
Derrick.

Pure Oil Co.'s No. 1 G. Wharton Est. 1,497 ft. from SW line and 318 ft. from SE line of F. Walnut Sur., Abst. A-25.
Drlg. shale 4,870 ft.

Pure Oil Co.'s No. 3 Stewart, 1,000 ft. SW and 318.25 ft. SE from N cor. of W. L. Stewart's 160-ac. tract, Morris and Cummings Sur. No. 25.
Location.

Pure Oil Co.'s No. 4 Stewart, 485 ft. SW, 330 ft. NW of E cor. of W. L. Stewart's 160-ac. tract, Morris and Cummings Sur. No. 25.
T.D. 5,163 ft.; 7-in. csg. 5,122 ft.; I.P. 208 bbls. in 19 hrs.; through ¼-in. choke; tubing pressure 475 lbs.

BAY JUNOP—TERREBONNE PARISH

Texas Co.'s No. 6-B State, 458 ft. S. 498 ft. E of NW cor. of Sec. 34-21s-14e.
Fishing 7,161 ft.

CALLIOU ISLAND—TERREBONNE PARISH

Texas Co.'s No. 17 Calliou Island, Sec. 18-23-23.
Drlg. shale 2,582 ft.

Texas Co.'s No. 18 Calliou Island, 2,177 ft. E and 1,385 ft. S of NW cor. Sec. 24-21s-16e.
Derrick.

SOUTH LOUISIANA FIELDS

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 22 Watkins, 2,230 ft. W and 1,340 ft. S of NE cor. Sec. 18-12s-12w.
Location.

Shell Pet. Corp.'s No. 21 Watkins, 1,570 ft. E of NW cor. Sec. 17-12s-12w.
Drlg. limestone 1,612 ft.

Shell Pet. Corp.'s No. 3 State.
Cutting and pulling csg.; T.D. 6,154 ft.

BOSCO—ACADIA AND ST. LANDRY PARISHES

Oswego Oil Co.'s No. 2 Moulton, Sec. 34-8s-3e.
13⅜-in. csg. at 1,335 ft.; drlg. sand and shale 6,012 ft.

Superior Oil Prod. Co.'s No. 2 Le Blanc 1,698 ft. S, 937.09 ft. W of NE cor. Sec. 33-8s-3e.
Rig up.

Superior Oil Prod. Co.'s No. 1 Mire, "A" Lease, 3,611 ft. N, 1,895 ft. W of SE cor. of Sec. 33-8s-3w.
Drlg. shale 8,638 ft.

Superior Oil Prod. Co.'s No. 2 E. Mire, 1,039.07 ft. S, 916.82 ft. W of NE cor. Sec 33-8s-3e.
Spudded.

Superior Oil Prod. Co.'s No. 2 Prejean, 300 ft. S. 490 ft. W of NE cor. of SW¼ Sec. 34-8s-3e.
Drlg. sand and shale 6,105 ft.

Superior Oil Prod. Co.'s No. 3 Malancon, 2,665 ft. S, 1,757 ft. W of NE cor. of Sec. 33-8s-3e.
7-in. csg. 8,678 ft.; T.D. 8,685 ft.

Superior Oil Prod. Co.'s No. 1 Iseringhausen, 1,395 ft. E, 330 ft. N of SW cor. of N½ of NW¼ of Sec. 35-8s-3e.
Coring shale 8,541 ft.

Superior Oil Prod. Co.'s No. 2 C. B. Hernandez, 300 ft. N, 300 ft. W of SE cor. of NW¼ Sec. 34-8s-3e.
Drlg. sand and shale 3,400 ft.
Superior Oil Prod. Co.'s No. 3 C. B. Hernandez, 250 ft. N, 1,016 ft. W of SE cor. of SW¼ Sec. 34-8s-3e.
Drlg. sandy shale 6,085 ft.
Superior Oil Prod. Co.'s No. 7 Hernandez, 1,291.1 ft. N, 667.5 ft. E of SW cor. of NW¼ Sec. 34-8s-3e.
13⅜-in. csg. 1,206 ft.; drlg. sand and shale 5,315 ft.
Superior Oil Prod. Co.'s No. "G" Hernandez, 3,358 ft. S, 683 ft. E of NW cor. Sec. 35-8s-3e.
13⅜-in. csg. 1,208 ft.
Superior Oil Prod. Co.'s No. 3 Malancon, 400 ft. S, 380 ft. E of NW cor. of SW¼ Sec. 34-8s-3e.
Location.
Superior Oil Prod. Co.'s No. 2 Falls, 330 ft N, 1,796 ft. W of SE cor. of Sec. 27-8s-3e.
13⅜-in. csg. at 1,235 ft.; T.D. 7,844 ft.; cutting and pulling csg.

DARROW—ASCENSION PARISH

Humble O. & R. Co.'s No. 5 Community, 228 ft. SW of NE line of section, 200 ft. at R/A to east bank of river, Sec. 33-10s-2e.
Drlg. shale 3,951 ft.
Humble O. & R. Co.'s No. 4 Community, 4,825 ft. from NE cor. and 288 ft. S of N line at R/A, Sec. 33-10s-2w.
Digging cellar.

CAMERON MEADOWS—CAMERON PAR

Burton-Sutton Oil Co.'s No. 5 School Land, 150 ft. N of S line and 300 ft. E of No. 2. Sec. 16-14s-13w.
Drlg. shale 1,310 ft.
Burton-Sutton Oil Co.'s No. 4 School Land, 1,891 ft. W and 150 ft. N of SE cor. of Sec. 16-4s13w.
Derrick.
Magnolia Pet. Co.'s No. 11 Cameron Meadows.
Rig up.
Texas C'o's No. 1 Miami Corp.
T.D. 9,331 ft.; P.B. 4,000 ft.; flowed 482 bbls. of fluid daily, 65% S.W.; quit flowing; S.D.
Texas Oil Co.'s No. 11 Calcasieu Lake.
Rig up.

CHOCTAW DOME—IBERVILLE PARISH

Standard Oil Co.'s No. 1 Myrtle, 900 ft. N and 550 ft. W of SE cor. of SW¼ of Sec. 52-9s-11e.
Location.
Standard Oil Co.'s No. 5 Gay, 2,450 ft. S and 425 ft. E of NW cor. of NE Sec. 32-9s-11e.
Drlg. shale 3,820 ft.

DOG LAKE—TERREBONNE PARISH

Texas Co.'s No. 17 State.
Drlg. sand 717 ft.
Texas Co.'s No. 8 Louisiana Land & Exploration.
T.D. 5,569 ft.
Texas Co.'s No. 11 State, 150 ft. N and 2,474 ft. W. SE cor. Sec. 31-21s-16e.
Drlg. shale 2,884 ft.

GARDEN ISLAND BAY—TERREBONNE PARISH

Texas Co.'s No. 13 State, 3,391 ft. S and 1,504 ft. W of NE cor. Sec. 107-23-32.
Rig up.
Texas Co.'s No. 15 Garden Island.
Drlg. lime 2,486 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 6, Alliance Trust, 667 ft. E. 1,787 ft. S line of lease, Sec. 34-11s-1w.
8⅝-in. csg. 3,540 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 4 Hanzen, 1,650 ft. W and 780 ft. N of SE cor. Sec. 11 12s-10w
D.S. stuck; backed off to 3,700 ft.
Gulf Prod. Co.'s No. 17 Erwin.
Drlg. shale 5,611 ft.
Gulf Prod. Co.'s No. 14-B State, 610 ft. S. 1,866 ft. E of NE cor. Sec. 13-12s-10w.
Derrick.
Sutton Oil Co.'s No. 2 Portier, 717 ft. S and 50 ft. W of NW cor. SW¼ SE¼ Sec. 12-12s-10w.
Rig up.
Texas Co.'s No. 14 State, 500 ft. SE of No. 13, Sec. 13-12s-10w.
Derrick.
Yount Lee Oil Co.'s No. 13 Gulf Land, Sec. 14-12s-10w.
Drlg. wtr. sand 737 ft.
Yount Lee Oil Co.'s No. 1-A Gulf Land. 2,000 ft. S and 50 ft. E of the NW cor of Sec. 22-12-10.
Rig up.

NEW IBERIA—IBERIA PARISH

Harrison & Abercrombie's No. 3 Schwing. 500 ft. N and 50 ft. E of No. 2, Sec. 24-12s-5w.
Drlg. shale 4,510 ft.
Iberia Oil Corp. and Y. D. Spell's No. 2 Bernard, 150 ft. E of No. 1, Sec. 54-12s-7e.
S.D. 3,846 ft.; salt.
Iberia Oil Co. and Y. D. Spell's No. 3
Drlg. shale 4,234 ft.

IOWA—CALCASIEU AND JEFF DAVIS

Shell Pet. Corp.'s No. 2 Ardoin.
Redrlg. hole 7,028 ft.
Shell Pet. Corp.'s No. 14 Heyd, 330 ft. N, 1,319 ft. W of SE cor. of NE¼ Sec. 19
T.D. 6,702 ft.; 7-in. csg. 6,623 ft.; C.O. to rerun tubing.
Shell Pet. Corp.'s No. 15 Heyd, Sec. 13-9s-7w.
Drlg. sand 3,847 ft.
Shell Pet. Corp.'s No. 4 Ardain, 1,650 ft. S, 330 ft. E of NW cor. of lease.
Rig up.

JENNINGS—ACADIA PARISH

Absure-Bolyard Oil Co.'s No. 2 Clement.
S.D. 1,910 ft.
Port City Oil Co.'s No. 3 Syndicate.
T.D. 6,311 ft.
Port City Oil Co.'s No. 6 Syndicate.
T.D. 1,758 ft.; pumping 40 bbls. daily.
Yount Lee Oil Co.'s No. 7 Houssiere-Latrielle.
Drlg. shale 7,463 ft.
Yount Lee Oil Co.'s No. 14 Houssiere-Latrielle, 260 ft. N of No. 13, Sec. 47-9s-2w.
Drlg. shale 7,830 ft.

LAKE BARRE—TERREBONNE PARISH

Texas Co.'s No. 19 Lake Barre.
T.D. 345 ft.
Texas Co.'s No. 25 Lake Barre.
S.D. 1,820 ft.
Texas Co.'s No. 14 Lake Barre.
D.S. stuck 2,999 ft.; P.B.; coring anhydrite 2,573 ft.
Texas Co.'s No. 15 Lake Barre.
Drlg. shale and lime 3,733 ft.

LAKE PELTO—TERREBONNE PARISH

Texas Co.'s No. 12 Lake Pelto.
Drlg. wtr. sand 5,206 ft.
Whitstone O. & G. Co.'s No. 1 Buckley, 300 ft. S and E of NW cor. SW SW Sec. 35-19s-16e.
T.D. 3,390 ft.; P.B. to 3,053 ft.; S.D.

LAKE HERMITAGE—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 3 Lafourche Levee Basin 1,725.
Coring sand 2,692 ft.

LAKE WASHINGTON—PLAQUEMINES PARISH

Humble O. & R. Co.'s No. 23 Cockrell-Moran. 650 ft. N and 21 deg. 30 min. E of No. 2 in Twp. 20s-26e.
Drlg. sandy shale 3,780 ft.

LEESVILLE—LAFOURCHE PARISH

Gulf Prod. Co.'s No. 6 Allen Lane, Sec. 26-21s-22e.
Derrick.
Gulf Prod. Co.'s No. 12 Bernaro, Sec. 26-21s-22e.
Location.
Gulf Prod. Co.'s No. 10 Bernard, 1,833 ft. E. 958 ft. S of NW cor. Sec. 26-21s-22e.
Derrick.
Emerald Pet. Co.'s No. 10 State, west bank, 300 ft. S of well No. 1.
Location.
Emerald Pet. Co.'s No. 11 State, east bank. 227 ft. N of well No. 1.
Location.
Emerald Pet. Co.'s No. 12 State, east bank. 250 ft. S of well No. 1.
Location.
Lincoln Oil Co.'s No. 6 State.
Drlg. shale 3,226 ft.
Lincoln Oil Co.'s No. 5 State.
Location.
Texas Co.'s No. 31 Leesville.
Drlg. shale 3,125 ft.
Texas Co.'s No. 27 Leesville.
Derrick.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 7 Farquar (W.O.).
Drlg. 6,673 ft.
Magnolia Pet. Co.'s No. 14 Miller (W.O.).
T.D. 4,389 ft.
Union Sulphur Co.'s No. 6 Moss, located between No. 2 and No. 5 (W.O.).
Drlg. oil sand 6,644 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Prod. Co.'s No. 12 Wilson Cochran. Sec. 4-5e-6s.
Rig up.
Port Barre Oil Co.'s No. 2 Sybil, 3,080 ft. N easterly along section line, thence 55 ft. at R/A to the east, Sec. 20-6s-5e.
Drlg. shale 2,893 ft.

ROANOKE—JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 1 Nelson Thomas, 880 ft. W of No. 2 Kratzer, 440 ft. N and W of SE cor. of 200-ac. tract.
Location.
Humble O. & R. Co.'s No. 2-B Devilbiss, 1,127 ft. W of No. 1-B, 440 ft. S of N line of S½ of Sec. 11-9s-4w.
10¾-in. csg. 3,097 ft.; drlg. shale 3,757 ft.
Humble O. & R. Co.'s No. 1 Clayton, 3,95o ft. S and 440 ft. W, NE cor. Sec. 10-9s-4w.
Rig up.
Humble O. & R. Co.'s No. 3 Devilbiss, 1,320 ft. W. 466 ft. S of NE cor. Sec. 14-9s-4w
T.D. 9,216 ft.; P.B. to 8,746 ft.; perforated csg. 8,695-8,705 ft.; ran tubing; flowing 300 bbls. per day through ⅝-in. choke; 90% wtr. and mud; tubing pressure 400 lbs.; csg. pressure 450 lbs.
Shell Pet. Corp.'s No. 1 Jarnigan, 330 ft. E. 660 ft. S NW cor Sec 12-9s-4w.
T.D. 7,487 ft.; to make D.S. test.
Shell Pet. Corp.'s No. 3 Kratzer, 1,320 ft. E and 440 ft. N of SW cor. of lease.
Drlg. hard shale and lime 7,235 ft.
Shell Pet. Corp.'s No. 1-B Kratzer, 660 ft. N, 330 ft. E of SW cor. of SW¼ Sec. 1-9s-4w.
Location.

STARKS—CALCASIEU PARISH

Gulf Prod. Co.'s No. 37 Lutcher Moore, Sec. 19-9s-12w.
Location.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 12 Yount Lee Oil Co., 800 ft. S of No. 11, in line with Nos. 9 and 11, Sec. 12-13s-2w.
T.D. 8,196 ft.; fishing.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 Noble (W.O.).
Drlg. sand and shale 4,922 ft.
Union Sulphur Co.'s No. 807 fee
9⅝-in. csg. 3,274 ft.; T.D. 3,284 ft.; I.P. 500 bbls. through ¼-in. choke; pressure 480 lbs.
Union Sulphur Co.'s No. 3 Kelly.
Drlg. lime 3,850 ft.
Union Sulphur Co.'s No. 809 fee.
Drlg. shale 2,369 ft.

WHITE CASTLE—IBERVILLE PARISH

Shell Pet. Corp.'s No. 1 White Castle Shingle Co., 1,320 ft. W, 100 ft. S from NE cor of lease.
T.D. 6,072 ft.; salt; set whipstock at 2,310 ft.
Shell Pet. Corp.'s No. 1 Adams, 2,340 ft. N. 100 ft. E of SW cor. of lease.
Reaming 6,696 ft.; T.D. 6,726 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Arkansas Fuel Oil Co.'s No. 1 Herman W. Peschel, 990 ft. out of N cor. of 167.5-ac. tract, R. Stolze Sur.
Drlg. shale 3,142 ft.; tested slight show of gas from 2,989-3,030 ft.
Deering & Kayser's No. 1 P. A. McClinton, 1,100 ft. from NW line and C NE and SW of 115-ac. tract in Thomas Bell Sur.
Rig up.
Paul English et al's No. 1 Felix Guhn, 1,000 ft. S, 360 ft. E from NW cor. of 71-ac. tract, D. Chomel Sur., 1 mile SE of Kinney.
Derrick; moving in rig.

BRAZORIA COUNTY

George Strake's No. 2 Truska, 991 ft. W of No. 1, H.T.&B. Sur., Sec. 7.
S.D. 6,000 ft.
Holt et al's No. 1 Griffith, J. B. Bailey Sur.
Drlg. shale 5,240 ft.
Showers & Moncrief's No. 1 Hughey, 5,500 ft. NW of discovery well, in center of Lot 18, H.T.&B. Sur., Sec. 29, Abst. 291
Location.
Texas Co.'s No. 1 Freeport Sulphur Co., 3,764 ft. N, 1 deg., 40 ft. W and 1,184 ft. S, 88 deg., 20 ft. W of NW cor. of S. F. Austin Sur., Abst. No. 35, being in the Conception Areola Sur.
Drlg. sand, shale and shell 2,927 ft.
Turnbull & Irwin et al's No. 1 W. and R. H. Allison, 2,200 ft. W, 2,732.5 ft. S from NE cor. of H.T.&B. Sur. No. 79.
Moving in rig.

CALHOUN COUNTY

Continental Oil Co.'s No. 2 American National Realty Co., 660 ft. from NW line, 660 ft. from NE line of Sec. 6, Blk. C, Pedro Garcia Sur.
Cmtd. surface csg. 177 ft.

CHAMBERS COUNTY

South Gulf Oil Co.'s No. 1 J. T. White, Luke Brian Sur., 460 ft. from N line, 460 ft. from W line of 47.9-ac. tract.
Rig up.

COLORADO COUNTY

Gulf Prod. Co.'s No. 1 A. R. Milentz, 990 ft. N along E line from SE cor. of 160-ac. lease and 330 ft. W at R/A, I.&G.N.R.R. Co. Sur. No. 23.
Location.

FORT BEND COUNTY

W. A. Shafer et al's No. 1 V. B. Bortash. 693 ft. SW of NE line and 1,003 ft. NW of SE line of Sec. 52, H.&T.C. Sur.
S.D. 2,900 ft.
George White et al's No. 1 M. M. Cravins. 1,000 ft. from N, 300 ft. W of SW cor. of survey, B.B.B.&C. Sur. No. 8.
Rig up.

GALVESTON COUNTY

Gillock Pet. Co.'s No. 2 Maco Stewart, 800 ft. N and 150 ft. W of No. 1, Alex Farmer Sur.
T.D. 1,500 ft.; waiting on surface pipe; S.D.

GRIMES COUNTY

Anderson & Kerr Drlg. Co.'s No. 1 R. Lueders, 500 ft. S of N line, 1,200 ft. E of W line of 320-ac. tract and survey, Blake Brantley Sur., 2½ miles SW of Plantersville.
Rig up.
Hubert Holt et al's No. 1 Simon Fuqua 1,200 ft. N of S line and 400 ft. W of E line of 177-ac. lease and survey, Moses Evans Sur.
S.D. 3,080 ft.
Dr. Marshall et al's No. 1-B Todd, 300 ft from E line and 175 ft. from N line of 150-ac. tract in extreme NW cor. of county (25 ft. N of No. 1).
S.D. 2,005 ft.
Patton et al's No. 1 Yeager, 1,000 ft. W of E line, 170 ft. S of N line of 53-ac. tract and survey, A. Ruseolle Sur., NW of Iola Sur.
6⅝-in. csg. at 63 ft.; drlg. shale 911 ft.
Russ Pet. Co.'s No. 1 Gibbs, 990 ft. from NW line, 330 ft. from SW line of survey. Abd. 3,500 ft.
Roan et al's No. 1 S. W. Sealy, 3,474 ft. N of S line and 850 ft. E of W line of survey, B. F. Smith Sur., 2 miles SW of Kellum Springs.
S.D. 2,650 ft.

HARDIN COUNTY

Frazier & Greer's No. 1 Sternberger Lbr. Co., 1,325 ft. S and 400 ft. W of the NE cor. of a 115-ac. tract, J. Pearson Sur.
Derrick.

HARRIS COUNTY

T. S. F. Oil Co.'s No. 1 J. B. Hine, Arthur McCormick Sur., Abst. 46.
T.D. 3,524 ft.; derrick blew down; will rebuild and core deeper.
C. C. Foster et al's No. 1 H. K. Johnson 2,000 ft. from S line and C of E and W lines of G.C.&S.F. Sur.
Drilled 25 ft. and S.D.
Johnston & Johnston's No. 1 Fee land, 330 ft. S, 300 ft. E of NW cor. of 20-ac. tract, Sur., Sec. No. 5.
Drlg. shale 3,725 ft.
Hill & Hill's No. 1 Wharton, 466 ft. from NW cor. Sec. 5, W.C.R.R. Sur.
Abd.; T.D. 7,205 ft.
W. U. Paul's No. 2 House, 100 ft N of No. 1, M. Magruder Sur.
7-in. csg. 7,760 ft.; T.D. 7,765 ft.; tested S.W.; P.B. to 7,615 ft. and tested S.W.; P.B. to 7,509 ft.; to test.
West Prod. Co.'s No. 1 Woodburn, 1,320 ft. E of W line, 2,145 ft. N of S line of survey, A. Whitlock Sur.
Prepare to spud.

JACKSON COUNTY

A. M. Harris' No. 1 Whitley, 800 ft. out of SE cor. of F. G. Keller Sur.
Location.
Shell Pet. Corp.'s No. 1 W. W. McCrary 460 ft. out of SE cor. of 50-ac. tract, A Kountze Sur.
Cored sand 5,469-74 ft.; R.U. 4½ ft.; strong odor of distillate; to make D.S. test.

JASPER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sabine Tram. Co., 330 ft. out of NW cor. Sec. 71, H.&T.C. Sur.
Drlg. shale 6,089 ft.

JEFFERSON COUNTY

Sun Oil Co.'s No. 1 Ebert & Braussard, 5,890 ft. NW along SW line and 660 ft. NE at right angles to SW line, B. Blackman Sur., Abst. No. 2.
Rig up.

LAVCA COUNTY

L. A. Douglas' No. 1 Fehrenkamp, 600 ft. from W line, 720 ft. from N line of Mitchell Sur.
Rig up.

LIBERTY COUNTY

R. M. Bruner et al's No. 1 N. Bell, 150 ft. from N line and 150 ft. from W line of Bell's 187-ac. tract, H.&T.B. Sur. No. 4.
Rigging up.
Extension Oil Co.'s No. 1 J. A. Lovett, 280 ft. from E and 600 ft. from S line of lease.
P. P. Deevers Sur.
S.D. 4,048 ft.
J. W. Frazier et al's No. 2 Lynott & Bedfum, 466 ft. from N and E lines of 60-ac. tract in extreme SE part of survey, James Robeson Sur.
Clearing location.
Liberty-Independent Oil Co.'s No. 1 J. M. Neal, 3,650 varas from E line and 500 varas from N line of Samuel Strong Sur.
Drlg. shale 4,184 ft.
A. L. Maxwell's No. 1 M. P. Hinciiff, 200 ft. from E line and 1,000 ft. from the N line of survey, H.&T.C. Sur., Sec. 10s. 10-in. csg. 626 ft.
Thomas et al's No. 1-A Eicke, 660 ft. from W line and 2,350 ft. from S line of tract in Green Sur.
T.D. 5,047 ft.; 6⅝-in. csg. at 5,029 ft.
Turnbull & Irwin's No. 1 Cox, 1,000 ft. from the E line and 200 ft. from S line of 308.2-ac. lease, F. J. G. Smiley Sur.
Location.

MADISON COUNTY

Madisonville Pet. Co.'s No. 1 Cannon, 660 ft. N of S line, 440 ft. E of W line of 185-ac. tract, J. V. Phillips Sur.
Location.

MATAGORDA COUNTY

Cockburn Oil Co.'s No. 7 Hawkins, 150 ft. NW of No. 6 Hawkins Sur., D. McCarthy Sur.
Drlg. sandy lime 3,710 ft.
Dr. Griffith's No. 1 fee, 3,000 ft. from E line and 3,000 ft. from W line of Wm. H. Bell Sur.
Rigging up and S.D.
Horace M. Smith, Inc.'s No. 1 Wadsworth ranch, 150 ft. out of S cor. of Lot No. 2, Blk. S. R. Fisher Sur.
T.D. 6,161 ft.; drlg. shale 5,790 ft.

MONTGOMERY COUNTY

Travis Baker et al's No. 1 Foster Estate, 1,200 ft. E of W line and 700 ft. S of N line of Blk. No. 50, J. M. De La Garza Sur.
Derrick.
P. & C. Oil Co.'s No. 1 G. B. Rosebury, 466 ft. from N and E lines of 160-ac. tract, A. M. Folks Sur.
Location.
Reynolds Drlg. Co. et al's No. 1 Mrs. Clara B. Stewart, 330 ft. S and E of most easterly inner cor. of 595-ac. tract, John Corner Sur.
S.D. 5,500 ft.
Trans State Oil Co.'s No. 1 Foster, 700 ft. E of W line, 2,000 ft. N of S line, Lot 37.
Drlg. shale 2,830 ft.
Woodard-Smith-Cooper's No. 1 J. V. Scott, F. A. B. Wheeler Sur.
Drlg. shale 3,910 ft.

ORANGE COUNTY

Blue Line Oil Co.'s No. 1 Godwin, Richard Ballew Sur., 300 ft. from E line and 150 ft. from NE line of Godwin 30-ac. tract
S.D. 2,770 ft.
Ellis Oil Co.'s No. 1 G. W. Pell, 100 ft. from N and 300 ft. from W line of Pell tract in the J. M. Henerie Sur.
Drlg. shale 2,113 ft.

POLK COUNTY

Howard Dailey et al's No. 1 Z. B. Knox. 1,450 ft. W and 1,920 ft. S of NE cor. of F. Chairs Sur., 16 miles NE of Corrigan.
S.D. 60 ft.
J. F. Anderson's No. 1 E. L. Duke (O.W.D. D.), 400 ft. from E and 350 ft. from S of SW cor. of P. Michelick 50-ac. lease, Abst. 59, P. J. Mineral Sur.
Waiting on a new mud pump; T.D. 5,304 ft.
Humble O. & R. Co.'s No. 1 Texas Long Leaf Lbr. Co., 466 ft. from NE line and 2,250 ft. from the NW line, Sec. 21, A. Viesca Sur.
Moving in rig.
Kirby Pet. Co.'s No. 1 Kirby Lbr. Co., 1,200 ft. N, 40 deg. W from NE cor. of Geo. Loving Sur., Abstract 402, thence 330 ft. NE at R/A T. F. Pickney Sur.
Cored S.W.; abd. 5,320 ft.
J. W. Leggett et al's No. 1 Bergman, C of 294-ac. tract, or 1,100 ft. W of H.E.&W.T. R.R., J. T. Pinkney Sur.
Rig up.
Dick Schwab's No. 1 Lynch, 330 ft. out of NW cor. of 200-ac. tract in the George Jameson Sur.
Location.
E. A. Thompson's No. 1 Haynes, 990 ft. out of NW cor. of 320-ac. tract and survey, J. Whitmire Sur., E of Leggett.
Drlg. shale 4,004 ft.

REFUGIO COUNTY

Cecil Hagen et al's No. 1 Edith Clarkson, 1,736 ft. from N line, 3,820 ft. from E line of J. Coughlin Sur.
Location.
Magnolia Pet. Co.'s No. 1 Woods, 330 ft. from S and W lines of S. Turner Sur.
Drlg. shale 5,294 ft.

ROBERTSON COUNTY

H. L. Patton's No. 1 H. Ely, located on a 616-ac. tract, A. Manchola Sur.
Coring 1,410 ft.

SAN JACINTO COUNTY

Ralph Sturam et al's No. 1 R. B. Love et

al, 475 ft. S of N line and 2,000 ft. W of E line of 177-ac. tract, Drury McGee Sur. Moving in rig.

VICTORIA COUNTY

A. I. Ahern's No. 1 Henderson & Pickering, 5,280 ft. from NW line, 330 ft. from NE line of W. M. Rupley Sur.
T.D. 6,016 ft.; recovered 20 thribbles of oil on D.S. test from 6,005-18 ft.; to set csg.

WALKER COUNTY

Boone Bros.' No. 1-D Texas Long Leaf Lbr. Co., 330 ft. E and 275 ft. N of SW cor. of 112.6-ac. tract, Mary Milsap Sur. 10¾-in. csg. at 373 ft.

S. E. Gray's No. 1 Winzell, 1,200 ft. N and 1,000 ft. E of most southerly S line of survey.
Drlg. 3,310 ft.

WALLER COUNTY

Smith et al's No. 1 J. S. Garrett, 4,840 ft. NW and 325 ft. NE from SE cor. of S. M. Williams Sur., 3 miles N of San Felipe.
Drlg. shale 4,310 ft.; no report.

WHARTON COUNTY

Texas Co.'s No. 1 Pierce Estate, 4,850 ft. S, 34 deg. E and 4,300 ft. N, 56 deg. E from W cor. of Tract 2, I.&G.N. Sur. No. 38
Drlg. Brown shale 6,424 ft.

SOUTH LOUISIANA
ACADIA PARISH

Humble O. & R. Co.'s No. 1 American Rice Mills, 660 ft. S and 1,320 ft. W from NE cor. Sec. 27-10s-1e.
T.D. 9,139 ft.; cutting 4-in. D.S.

Superior Oil Co. et al's No. 1 A. S. Newman, 2,000 ft. N and 1,120 ft. E of SW cor. Sec. 24-7s-1w.
Abd. 8,066 ft.

AVOYELLES PARISH

Bell Drlg. Co.'s No. 2 Thompson, 456 ft. S, 860 ft. E, NW cor. NE¼ Sec. 11-2n-5e.
Rig up and S.D.

Southern State Pet. Co.'s No. 1 Boyette, 330 ft. N and 330 ft. E of SW cor. Sec. 33-1n-5e.
Drlg. shale 3,608 ft.

BEAUREGARD PARISH

Chew & Kirby's No. 1 Long Bell Lbr. Co., 330 ft. S and W of C of NE¼ Sec. 36-2s-8w.
Drlg. gumbo 490 ft.

Richardson & Martin's No. 1 Southwest Lbr Location.

CALCASIEU PARISH

Fred Oil Co.'s No. 2 Faizst, 262 ft. E and 43 ft. S of NW cor. SE¼ Sec. 26-8s-10w
Spudded and S.D.

Fohs Oil Co.'s No. 1 McIvor, 330 ft. S and W of NE cor. Sec. 14-9s-8w.
Location abd.

Fohs Oil Co.'s No. 2 Castle, located in C of NE¼ of SW¼ Sec. 14-9s-8w.
T.D. 7,041 ft.; 6⅝-in. csg. 6,993 ft.; I.P. 48 bbls. of distillate; 1,000,000 ft. of gas; tubing pressure 700 lbs.; csg. pressure 2,500 lbs.

Nicholas McCaleb's No. 1 Grey, 2,200 ft. S 1,200 ft. E of NW cor. Sec. 22-8s-13w.
S.D. 850 ft.

Texas Co.'s No. 1 Nickerson, 3,139 ft. N and 2,338 ft. W of SE cor. Sec. 13-9s-8w.
T.D. 6,751 ft.; in oil sand.

Texas Co.'s No. 2 Nickerson, 2,304 ft. N. 4,322 ft. W of SE cor. NW Sec. 12-9s-8w
Location.

Union Sulphur Co.'s No. 2 Reeves-Mayo.
Drlg. hard shale 6,568 ft.

Union Sulphur Co.'s No. 3 State, 2,135 ft S, 2,340 ft. E of NW cor. Sec. 12-9s-8w.
Location.

Union Sulphur Co.'s No. 1 Castle, 326 ft N and E of NW Sec. 13-9s-8w.
Drlg. hard shale 7,656 ft.

Union Sulphur Co.'s No. 1 Buhler, 1,485 ft N and 435 ft. W of SE cor. Sec. 11-9s-8w
Drlg. hard shale 7,888 ft.

Union Sulphur Co.'s No. 3 Barbe, 396 ft. N and 339 ft. W of SE cor. of NE¼ Sec. 11-9s-8w.
Drlg. shale 6,719 ft.

Union Sulphur Co.'s No. 1 Reeves-Mayo. 650 ft. NE of discovery.
Drlg. shale and lime 6,471 ft.

Union Sulphur Co.'s No. 3 Castle, 660 ft. S of No. 1 Castle.
Drlg. wtr. sand 7,305 ft.

Wheeler Oil Co.'s No. 1 Gabbert, 1,322 ft E and 548 ft. N of SW cor. of Sec. 28 9s-7w
T.A. 8,692 ft.

CAMERON PARISH

Magnolia Pet. Co.'s No. 1 J. B. Broussard, 330 ft. E and S, out of NW cor. of the SW¼ of SE¼ of Sec. 13-12s-9w.
Spudded.

Steinberger Pet. Co.'s No. 1 Drew, 330 ft. out of NW cor. NE¼ of Sec. 26-10s-11w.
Location.

Texas Co.'s No. 1 Jessen, 1,170 ft. E and 550 ft. N of C Sec. 24-14s-10w.
Abd. 9,030 ft.

Wheeler Oil Co.'s No. 1 School Section, 1,325 ft. N and 2,108 ft. E of SW cor. of Sec. 16-9s-7w.
Digging pits.

EAST FELICIANA PARISH

Thompson Creek Oil Co.'s No. 1 Fannie Noland, 2,600 ft. E and 1,580 ft. N of SW cor. Sec. 70.
S.D. 1,480 ft.

JEFFERSON DAVIS PARISH

George W. Strake's No. 1 Calcasieu Natl Bank, 200 ft. S and E of NW cor. SE NE Sec. 12-9s-6w.
T.D. 8,148 ft.; tested S.W. on D.S. test from 8,144-48 ft.

JEFFERSON PARISH

Lincoln Oil Co.'s No. 1 Rigaud, Sec. 33-21s-25e.
Drlg. shale 6,810 ft.

Texas Co.'s No. 1 Bayou St. Dennis, 20,987 ft. S, 4,853 ft. E of NW cor. of Twp., Sec. 19-17s-24e.
Coring sandy shale 5,872 ft.

LAFOURCHE PARISH

Southern Sulphur Corp.'s No. 1 D. L. Lagraize, 800 ft. E of NW cor. of Lot 7 thence 250 ft. S of Sec. 26-21s-22e.
Spudded and shut down.

PLAQUEMINES PARISH

Venice Corp.'s No. 1 Burras.
S.D. 2,119 ft.

RAPIDES PARISH

J. B. Evers' No. 1 G. Wettermark, 640 ft. S and 520 ft. E, NW cor. NE SW Sec. 35-6n-2e.
Location.

C. D. Loe's No. 1 Barrett, 330 ft. NW of SE line and 880 ft. NE of SW line of Sec 40-5n-1w.
Fishing for D.S. 4,375 ft.

Williams-Terrell & Day's No. 1 Armstrong & Murphy, 286 ft. N and 300 ft. W of SE cor. Sec. 24-5n-1w.
Drlg. shale 2,016 ft.

ST. BERNARD PARISH

Danciger's No. 1 Battles, 836 ft. N, 2,198 ft. W of SE cor. Sec. 135-14s-14e.
Moving in rig.

Emerald Oil Co.'s No. 1 Eugenia Land Co., 1,922 ft. S, 1,720 ft. W of NE cor. Sec. 31-13s-15e.
Location.

ST. LANDRY PARISH

C. B. Bunte's No. 1 Thistle Waite Lbr. Co., 7,590 ft. W and 1,980 ft. S of NE cor. Sec. 68-5s-4e.
Rig up.

ST. MARTIN PARISH

Texas Co.'s No. 1 State-Plumb Bob, 3,107 ft. E and 2,154 ft. N of SW cor. Sec. 9-8s-7w.
Drlg. shale 6,452 ft.

ST. MARYS PARISH

Black et al's No. 1 Chetti-Manchis Indian Reservation, 330 ft. out of NE cor. of tract.
S.D. 8,501 ft.

TANGIPOHA PARISH

R. A. Conklin's No. 1 Lake Superior Piling Co., 200 ft. W and N of SE cor. Sec. 19-5s-9e.
Coring 3,114 ft.

VERMILLION PARISH

Moore Bros.' No. 1 Brussard, 350 ft. S of N line, 250 ft. E of W line, NE cor. Sec. 33-11s-3e.
S.D. 4,056 ft.

La.-Ark. Wildcats

(Continued from Page 60)

National Oils, Inc.'s No. 1 B. Y. Wemple. NW SW Sec. 14-12-11.
S.D. 120 ft.

EAST CARROLL PARISH

Century Oil & Drlg. Co.'s No. 1 Olive Dell, 660 ft. S, 300 ft. W. NE cor. Sec. 56-21-21e.
Derrick blown down; W.O. 220 ft.

GRANT PARISH

C. & S. Oil Corp.'s No. 1 Swope, Sec. 17-19-1e.
Set 10-in. 102 ft.; drlg. 380 ft.

MADISON PARISH

Frazier et al's No. 1 Frazier, 330 ft. S and E. NW cor. SE SE Sec. 23-17-10e.
Drlg. 2,500 ft.

NATCHITOCHES PARISH

Clyde Crichton's No. 1 Friedman Est., 406 ft. N, 428 ft. E, SW cor. Sec. 52-7-6.
S.D. 2,954 ft.

Missouri Drlg. Co.'s No. 1 Brown Lbr. Co., 400 ft. N, 330 ft. W, SE cor. Sec. 5-10-10.
S.D. 1,032 ft.

Roy A. Raines et al's No. 1 Raines est., 330 ft. N and E, NW cor. Sec. 8-9-10.
Junked and abd. 5,540 ft.

RAPIDES PARISH

C. D. Loe, trustee's No. 1 Baird Est., SE cor. Sec. 40-5n-1w.
Junked and abd. 4,486 ft.

Williams-Carroll & Day's No. 1 Armstrong & Murphy, 286 ft. N, 300 ft. W, SE cor. Sec. 24-5n-1w.
Coring 3,140 ft.

RED RIVER PARISH

Sterling O. & R. Co.'s No. 1 Long Bell, Sec. 19-13-9.
S.D. for D.S. 2,828 ft.

J. S. Tuffree's No. 1 Wilkinson, 1,320 ft. S and W, NE cor. Sec. 11-12-11.
S.D. for fuel 1,330 ft.

SABINE PARISH

H. J. Brothers et al's No. 1 Edwards, 300 ft. S and W, NE cor. SW NW Sec. 29-9-13.
Tested dry; S.D.; W.O. 2,015 ft.

Crescent Drlg. Co.'s No. 3 Garner, Sec. 3-7-11.
Location.

M. T. Hines' No. 1 J. B. Hill, SW NE Sec. 4-6-11.
Drlg. 1,815 ft.

Laurel Pet. Co.'s No. 1 Long Bell Lbr. Co., 330 ft. N and E, SW cor. Sec. 14-8-14.
Set 12½-in. 56 ft.

Lawson-Leavell & Bryant's No. 4 Bank of P. H., 330 ft. S and W, NE cor. NW NE Sec. 29-9-13.
S.D. 945 ft.

Jack Lent's No. 1 Williams, Sec. 13-7-11.
S.D. 950 ft.

Dave McConnell's No. 1 Whiting Corp., Sec. 3-9-13.
W.O.S.R. 1,956 ft.

Hill Meyers et al's No. 1 Henderson, 330 ft. S and W, NE cor. SE NE Sec. 29-9-13.
Set 7-in. 1,509 ft.; using acid 1,630 ft.

Strickland et al's No. 1 Whitney Corp., Sec. 32-10-12.
Recmt. 8-in.; T.D. 1,590 ft.

UNION PARISH

Carbon Consolidated's No. 1 Hollis, 946 ft. N, 1,056 ft. E, SW cor. SE Sec. 10-21-3e.
Drlg. 50 ft.

Southern Carbon Co.'s No. 66 fee, 660 ft. S, 1,980 ft. E, NW cor. Sec. 5-20-4e.
Set 6-in. 2,120 ft.

WEBSTER PARISH

Virgil Likens' No. 1 E. L. Stewart, 1,020 ft. E, 600 ft. S of NW cor. Sec. 23-18-10.
Drlg. 1,420 ft.

ARKANSAS
ARKANSAS COUNTY

Grand Prairie Realty Co.'s No. 1 Fischer, 200 ft. S and E, NW cor. NE NW Sec. 6-8s-4w.
Dry and abd. 3,935 ft.

ASHLEY COUNTY

Glenn E. McFaddin et al's No. 1 Boreine Farms, 660 ft. S and W, NE cor. Sec. 1-18-8
Coring 2,773 ft.

COLUMBIA COUNTY

Southern States Gas Co's No. 1 Piney Woods Lbr. Co., 330 ft. N and E, SW cor. NE NW Sec. 10-20-22.
Set 10-in. 203 ft.

HEMPSTEAD COUNTY

A. H. Bagnelle's No. 1 Trattner & Rhinehart, Sec. 2-13-26.
S.D. 1,992 ft.

LAFAYETTE COUNTY

W. H. Harvey's No. 2 Allen, Sec. 18-19-24.
Bailing 2,782 ft.

Kamon & Neely's No. 1 Cockran, NW cor. SE SW Sec. 26-15-25.
S.D. 3,035 ft.

Riggs Bros.' No. 1 Dubose, SE cor. SW NW Sec. 35-15-24.
Drlg. 1,910 ft.

LONOKE COUNTY

J. G. Strahan's No. 1 Hardin, Sec. 18-2s-7w.
S.D. 1,780 ft.

MILLER COUNTY

Ed Donohue's No. 2 Beck, Sec. 33-15-26.
W.O.S.R. 2,941 ft.

Duluth-Ark. Oil Co.'s No. 4 Beck, SE cor. SE SW Sec. 34-15-26
Fishing for D.S. 2,928 ft.

M. D. K. Fitzwater's No. 1 E. H. Beck, 150 ft. N and E, SW cor. NW SW Sec. 34-15-26.
Sidetracking D.S. 2,915 ft.

Fitzwater et al's No. 1 Norson, SW cor. SE SW Sec. 20-15-27.
S.D. 3,177 ft.

King Oil Corp.'s No. 1 C. H. Schroder, 200 ft. N, 330 ft. E, SW cor. SW NE Sec. 24-14-28.
S.D. 3,167 ft.

King Oil Corp.'s No. 1 Anderson, 350 ft. E, 200 ft. S, NW cor. SW NE Sec. 16-14-27.
Drlg. 2,025 ft.

A. C. Ruan's No. 1 Frost Est., 150 ft. N and W, SE cor. SE SW Sec. 8-15-26.
Set 10-in. 120 ft.

Lee Timberlake's No. 1 Frost Est., 330 ft. N and E, SW cor. SW SE Sec. 27-15-26.
Coring 2,946 ft.

NEVADA COUNTY

Carnett et al's No. 1 Floyd Munin, C SW Sec. 16-14-22.
S.D. 50 ft.

OUACHITA COUNTY

F. A. Book et al's No. 1 Arnold, Sec. 24-15-16.
S.D. 2,032 ft.

S. J. Carnes' No. 1 Highsmith, NW cor. NE NW C of 2-ac. tract, Sec. 25-13-18.
Location abd.

Kraft Oil Corp.'s No. 1 Rath & Cartier, 330 ft. S and E, NW cor. SW SW Sec. 32-13-17.
S.D. 1,852 ft.

Chas. Steele et al's No. 1 Myar Est., 330 ft. N and W, SE cor. SW SE Sec. 16-13-18.
Rigging up.

SEVIER COUNTY

Pendleton & Vaughn's No. 1 Harrison Est., 265 ft. S, 30 ft. W, CEL Sec. 34-9-30.
Set 10-in. 100 ft.; set 6-in. 1,155 ft.; S.D.; W.O.

UNION COUNTY

Alice-Sidney Oil Co.'s No. 2-B E. F. Gregory, 330 ft. N and E, SW cor. NW SW Sec. 10-11-14.
Swbng. 3,336 ft.

J. E. Crosbie, Inc.'s No. 1 W. E. Gregory, 330 ft. S and E, NW cor. NE Sec. 15-17-14.
T.A. 3,503 ft.

J. E. Crosbie, Inc.'s No. 1 Warren, 330 ft. S and W, NE cor. SW SW Sec. 10-17-14.
Testing 3,342 ft.

Gardy Drlg. Co.'s No. 1 Craig, Sec. 35-17-15.
S.D.; W.O. 2,211 ft.

Gulf Ref. Co.'s No. 49 L. Werner, 4,620 ft. N, 60 ft. E, SW cor. Sec. 5-16-16.
Drlg. 4,379 ft.

Reuter Oil Co.'s No. 2 Vines, NW cor. SW SE Sec. 29-18-14.
D.D. to 2,216 ft.; W.O.S.R.

H. L. Hunt's No. 15 E. F. Gregory, 330 ft. N and W, SE cor. Sec. 10-17-14.
Arranging to test 6,545 ft.

H. L. Hunt's No. 18 E. F. Gregory, 330 ft. N and E, SW cor. Sec. 11-17-14.
Derrick.

T. L. James' No. 2-A E. F. Gregory, 330 ft. S. 330 ft. E, NW cor. NW SW Sec. 10-17-14.
S.W. and abd. 3,462 ft.

Mrs. R. K. Jones et al's No. 1 Davis, 330 ft. N and W, SE cor. NW NW Sec. 28-16-14.
Set 7-in. 2,746 ft.; T.D. 2,765 ft.

Lion Oil Ref. Co.'s No. 6 H. L. Rowland, 330 ft. S and W, NE cor. Sec. 15-17-14.
T.A. 3,427 ft.

Marine Oil Co.'s No. 4-E Thompson, 330 ft. S and W, NE cor. NW NE Sec. 10-18-13.
Set 10-in. 175 ft.; drlg. 1,700 ft.

Joe Modisette et al's No. 1 D. S. Sturdevant, 330 ft. N and W, SE cor. Sec. 6-18-13.
S.D. 4,016 ft.

C. E. Murdock's No. 1 R. Pumphrey, C SW NW NE Sec. 11-17-14.
Derrick.

Reuter Oil Co., Inc.'s No. 1 J. L. Kinard, 330 ft. S and E, NW cor. SE NW Sec. 32-15-14.
Pumping 2,189 ft.; no gauge.

Earl Patterson's No. 1 C. L. Smith, 1,130 ft. S, 550 ft. E, NW cor. Sec. 29-17-14.
P.B. 2,544 ft.

Urbana-Union Oil Co.'s No. 1 U. S. M., 330 ft. S and E, NW cor. E½ SW Sec. 34-17-13.
Drlg. 2,000 ft.

MISSISSIPPI
AMITE COUNTY

Mineral Resources, Inc.'s No. 1 Anderson, C NE NW Sec. 14-3n-3e.
S.D. 550 ft.

BOLIVAR COUNTY

White & Jones' No. 1 Ballou, SE SE NW Sec. 17-24n-7w.
S.D. 20 ft.

CLARKE COUNTY

L. Beckwith et al's No. 1 Long Bell Lbr. Co., 538 ft. S, 125 ft. W of C Sec. 16-2n-16e.
Rigging up.

Clarke County Oil Co.'s No. 1 Dora Butler, C SW SW Sec. 15-2n-16e.
Set 10-in. 63 ft.

HARRISON COUNTY

Big Ridge Oil Co.'s No. 1 Hinzin, NE Sec. 13-7s-10w.
S.D.; W.O. 1,100 ft.

HINDS COUNTY

Bob Weaver's No. 1 T. Russell & Oparka, C NW SW NE Sec. 26-6n-1e.
Set 5 5/16-in. 2,440 ft.

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Fox, 400 ft. N, 750 ft. W, SE cor. SE SW Sec. 30-7n-12w.
D.S. stuck 4,050 ft.

LAUDERDALE COUNTY

Bob Dalton's No. 1 Bounds, Sec. 34-7n-14e
Drlg. 1,525 ft.

MONROE COUNTY

P. J. McAlpine's No. 1 Frank Rye, Sec. 15-15s-17w.
S.D. 2,910 ft.

P. J. McAlpine's No. 1 Crook, 1,090 ft. S 90 ft. W, NE cor. Sec. 15-13s-13w.
Drlg. hard lime 2,275 ft.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, SW cor. SW SE Sec. 24-2n-9e.
Partly rigged up and S.D.

WARREN COUNTY

H. W. Elliott et al's No. 2 R. L. Parker, 780 ft. E, 1,570 ft. S, NW cor. Sec. 16-14n-1e.
Set 4½-in. 1,600 ft.

WASHINGTON COUNTY

Perkins & Dees' No. 1 Lee, 1,500 ft. E, 660 ft. N, SW cor. Sec. 33-15n-3w.
Set 10-in. 300 ft. and S.D.

WINSTON COUNTY

Jack Vale et al's No. 1 Moody, 713 ft. S, 667 ft. E, SW cor. NW SW Sec. 3-13n-14e.
S.D. 940 ft.

La.-Ark. Proven Fields

NORTH LOUISIANA
CADDO—BLANCHARD

Louana O. & G. Co.'s No. 1 N. Moore, L. 330 ft. S, 660 ft. W, NE cor. Sec. 8-18-16.
Comp.; 500,000 ft. of gas, 936 ft.

M. Segall's No. 5 Sharps, Sec. 11-18-16.
Comp.; 3,000,000 ft. of gas 949 ft.

CADDO—RODESSA

United Gas. Pub. Ser. Co.'s No. 1 Fesges Unit, 1,320 ft. N and E, SW cor. Sec. 35-23-16.
Coring 5,893 ft.

United Gas Pub. Ser. Co.'s No. 1 Johnson Unit, 1,245 ft. S, 1,365 ft. W, NE cor. Sec. 26-23-16.
Drlg. 4,903 ft.

RAPIDES PARISH—ZWOLLE

Alexander & Crane's No. 1 Fogman, SE cor. N½ SW NE Sec. 18-7-11.
Set 6-in. 2,373 ft.

Ivan A. Allen's No. 1 La. Long Leaf, 330 ft. N and W, SE cor. NW SE Sec. 12-7-11.
S.D. 2,120 ft.

H. C. Maulding's No. 1 Davis, 350 ft. E and W, SE cor. NE NE Sec. 2-7-11.
Rigging up.

K. C. Peterson et al's No. 1 Bowman-Hicks, 330 ft. S and E, NW cor. SW NW Sec. 3-7-9.
Derrick down.

Tex.-La.-Ark. Oil Co.'s No. 1 Pickering Lbr. Co., Sec. 3-3-12.
S.D. 2,742 ft.

EAST TEXAS (BORDER COUNTIES)
HARRISON COUNTY

R. C. Payne et al's No. 1 Lowery, E. D. Spain Sur.
P.B. to 3,524 ft.

MARION COUNTY

Ed S. Holman's No. 1 Henderson, R. Bennington Sur.
P.B. to 2,443 ft.

PANOLA COUNTY

R. A. Graddy's No. 1 M. J. McCormick, J. McAdams Sur.
Moving in rig.

George Hudson et al's No. 1 J. F. Nail, C. McGeary Sur.
Set 8-in. 40 ft.; fishing for core bbl. at 2,345 ft.

Geo. Le Grand's No. 1 P. J. Wardleigh, A. Thompson Sur.
Set 10-in. 62 ft.

R. W. Price's No. 1 Crawford, J. A. Williams Sur.
Set 10-in. 64 ft.

Fred Stovall Drlg. Co.'s No. 1 H. D. Ivey, P. Martin H.R.S.
S.D. for csg. 1,930 ft.

SHELBY COUNTY

Cliff Stovall's No. 1 Pickering Lbr. Co., C H. Patterson Sur.
S.D.; rig repair, 1,435 ft.

O. P. Bush, trustee's No. 1 Pickering Lbr Co., P. W. Harvey Sur.
S.D. 730 ft.

ALABAMA
COVINGTON COUNTY

Geometer Prod. Corp.'s No. 1 Culbreath, SW r SW NR Sec. 8-2n-14e.
Reaming 3,885 ft.

HOUSTON COUNTY

Rice O. & G. Co.'s No. 1 Oakley est., SW cor. NW SW Sec. 9-3n-29e.
S.D.; W.O. 2,506 ft.

LAMAR COUNTY

DeSoto O. & G. Corp.'s No. 1 Gardner, Sec. 22-15s-16w.
S.D. 4,182 ft.

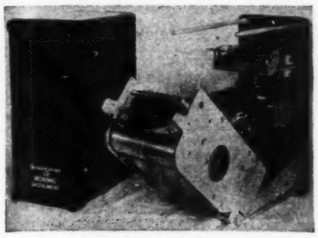
WALTON COUNTY—FLORIDA

Geometer Oil Corp.'s No. 2 Walton Land & Timber Co., Sec. 10-1s-19w.
Drlg. core tests on block; R.U. and S.D.

NEW AND IMPROVED EQUIPMENT

Tells Position of Distant Mechanism and Records It

A duplicate position telemeter system for indicating and recording at a distance the position of mechanisms such as valves or water level in water power

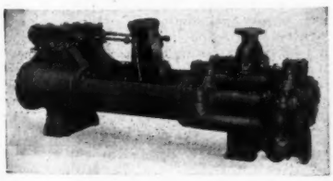


plants, engine governor positions, or the position of any important mechanism, is announced by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

The type GH position recorder is assembled in a rectangular case for switchboard panel mounting. An improved duplicate position type of motor operates a direct-acting pen which records on a strip-type chart variations in the position of remotely associated mechanisms operating a motor-type transmitter.

Worthington Introducing Improved Line of Pumps

Worthington Pump & Machinery Corp., of Harrison, N. J., has announced an improved line of piston-pattern pumps de-



signed particularly for the exacting requirements of the petroleum refiner.

The liquid ends are of the side-pot type, with minimum clearance and with removable cylinder liners. Features of importance to both the refiner and the operator are ease of accessibility and the long life and interchangeability of wearing parts. The liquid valves are located in pots on the sides of the cylinder, arranged to give streamline flow from suction to discharge. Each valve is accessible independently of the other.

The liquid cylinders are compact and rugged in design, for discharge working pressures up to 500 p.s.i. in Wompco metal and 700 p.s.i. in cast steel. Chrome-alloy valve service and liquid-end piston rods, and Ni-Resist cylinder liners are standard fittings. The cast-iron pistons may be fitted with either hammered iron or fibrous packing rings as service conditions require. For pumping oils or distillates at temperatures above their flash-points, the side-pot pumps are fitted with extra-deep water-jacketed stuffing boxes. The valve service, cylinder liners, liquid pistons and packing are interchangeable between simplex and duplex pumps of the same bore and stroke.

The Worthington piston-pattern side-pot pumps are available as simplex and duplex steam driven, or as duplex power driven by Worthington steam, gas or Diesel engines or by electric motors, either direct-connected or through Worthington multi-v-drive.

Notes About Trade Literature

The American Sand-Banum Co., Inc., 342 Madison Avenue, New York, manufacturer of Sand-Banum, a boiler scale eliminant, has prepared a booklet entitled "Solving the Boiler Scale Problem with Sand-Banum" and containing technical, chemical, engineering and general data on boiler scale control. It is sent on request.

—

Flow diagrams, dimensions and other information concerning the new positive-displacement petroleum meter put on the market by the Ralph N. Brodie Co., 659 Sixty-first Street, Oakland, Calif., may be obtained from the company on request.

—

A folder obtainable from the Brown Instrument Co., Philadelphia, Pa., illustrates and briefly describes the use of Brown instruments for reducing costs in boiler-room and plant processes.

—

A bulletin dealing with the design of modern industrial piping systems may be obtained from Tube-Turns, Inc., 645 South Fifth Street, Louisville, Ky.. Of particular interest is the method illustrated for determining the most economical pipe sizes and the amount of frictional resistance in straight pipe and bends. Charts by means of which correct pipe sizes and pressure drop can be figured, are given.

"Protecting Steel Against Corrosion," by Francis M. Hartley, Jr., is among the useful articles appearing in the current issue of the Dutch Boy Quarterly, published by the National Lead Co., 111 Broadway, New York.

—

An eight-page illustrated bulletin (No. D-84) giving a detailed description of the Landmaco 1¼- and 2-inch pipe and nipple threading machines may be obtained by addressing a request to Landis Machine Co., Inc., Waynesboro, Pa.

—

A 62-page handbook with flexible cover issued by the Republic Steel Corp., Youngstown, Ohio, contains tables of bursting pressures, setting depths and other useful information on Republic electric and lapweld oil-country tubular goods.

—

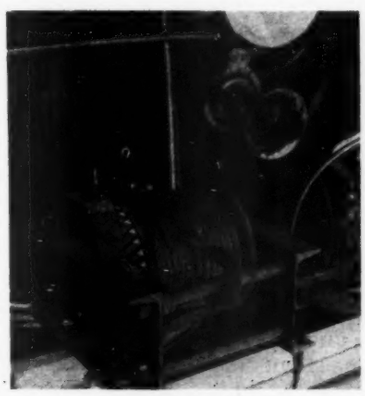
Sonken-Galamba Corp., 64 North Second Street, Kansas City, Kans., has inventory booklets available, covering the Altitude Petroleum Corp. refinery in Chanute, Kans., which Sonken-Galamba is liquidating. Copies are sent on request.

—

Forged steel double-hub and high-hub boiler flanges are the subject of a four-page bulletin obtainable from the Kropp Forge Co., 5301 West Roosevelt Road, Chicago.

Performs Lease Jobs and Solves Roadside Troubles

An emergency winch which mounts on the bumper of passenger cars and trucks, permitting the driver to pull himself quickly from mud, sand or a roadside



ditch, has been placed on the market by Koenig Iron Works, 2214 Washington Avenue, Houston, Tex.

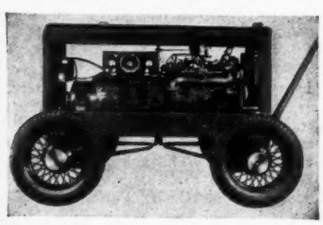
The winch also serves as truck utility winch power, to be mounted behind the cab for loading or unloading, or moving heavy equipment and performing various jobs on the oil lease.

The winch carries a flexible cable equipped with service hook. When the vehicle becomes stuck the driver merely unreels the cable and ties onto a tree, fencepost, or a screw anchor in event no natural anchor is handy. Operation of the winch then pulls the vehicle up to the anchor point.

The winch is made in two types, hand-operated, turned by a ratchet wrench, and power operated, run on a power take-off from the transmission.

Features of Importance Embodied in New Welder

Unusual features are incorporated in the new model HF, factory-built, gasoline-engine-driven "Simplified" arc welders announced by the Hobart Brothers



Co., Troy, Ohio. More powerful engines with modern improvements, with six or eight cylinders insuring a smooth flow of power, and a number of convenience features are pointed out.

Startix equipment with automatic choke and downdraft carburetor eliminates hand cranking and makes it unnecessary even to press a starting lever or pull a choke wire. The Startix goes into operation as soon as the ignition switch is turned on and automatically cuts out the instant the engine starts. The automatic choke, thermostatically controlled, insures quick starting without danger of flooding, in all kinds of weather.

Calibrated ignition with vacuum-controlled distributor insures maximum economy with freedom from "ping" when using ordinary commercial gasoline. A special generator supplies ample current to keep the storage battery charged, even when it is used for lights on the job. Air, oil and gas filters are standard equipment. Improved economy has been proven by tests, even with the increased power of the engine. All cylinders are equally and efficiently cooled.

Welding Ell of Stainless "Clad" Steel Is Announced

The Midwest stainless "clad" steel welding ell, announced by the Midwest Piping & Supply Co., 1452 South Second Street, St. Louis, Mo., for use wherever

corrosive or erosive fluids must be transported, is formed from a ply plate having a thin surface of true stainless steel (18-8) on a foundation of mild steel. The stainless steel is either the lining of the fitting to protect the mild steel covering from the action of the fluid, or it forms the outer covering to protect the inner mild steel from external corrosive conditions. Stainless steel welding rod is used for the longitudinal weld of the stainless surface, and high tensile rod for the carbon steel.

Midwest stainless "clad" steel welding ells are said to have all the advantages of the regular low carbon steel fittings made by Midwest: (1) longer tangents (one-quarter inch per inch of diameter) that facilitate erection and save pipe; (2) unusual dimensional accuracy and uniformity resulting from a special sizing operation; (3) final working of metal in compression (not extruded or stretched) at forging heat that normalizes both the plate and weld, etc.

New Vulcanizing Method for Belts Is Developed

A vulcanized splice for the compass cord transmission belt is announced by the Goodyear Tire & Rubber Co., Akron, Ohio. By means of this new vulcanizing method Goodyear compass cord belts now can be made endless on the drive. Belt users can obtain compass cord belting in roll lot, non-endless lengths for use on belt drives where it formerly was necessary to dismantle the pulleys to install an endless belt.

The ends of the compass belt are joined by dovetailing the load-carrying core of cords at the splice and by vulcanizing the spliced portion of the belt with a portable vulcanizer developed for this purpose. The compass cord belt is so constructed that the load is carried entirely by a layer of cords, laid side by side, embedded in rubber and sheathed in a protecting fabric envelope. For belt drives where endless belts can be easily and quickly installed, Goodyear will continue the manufacture of the compass cord endless belts.

TULSA REPRESENTATIVE

Malcolm W. Black, formerly with the geophysical division of the Continental Oil Co., at Ponca City, Okla., has resigned and will take a position with the Consolidated Ashcroft Hancock Co., Inc., at Bridgeport, Conn., until May 1 when he will become the Tulsa representative of that company.

Fibrous Materials in Drilling Muds

(Continued from Page 50)

behind the casing the returns were momentarily lost. The measuring line showed only 200 feet of fluid pumped into the casing between the time circulation was lost and the cement had completed a seal and the returns were back to normal, showing that the sealing material in the cement had successfully closed off the formation.

A few sacks of cement were intentionally left inside of the casing and an estimated total of 220 sacks were circulated out at the surface from behind the casing by the time the top plug reached its proper place, making a total of 835 sacks used to fill the space behind the casing and to obtain the seal. On the basis of 800 sacks to fill the space behind the casing, as shown by the indicator pumped in the mud prior to the cementing job, it appears that 35 hacks were consumed by the formation before the seal was complete.

As a result of this particular experience and other similar jobs, it is possible to more accurately estimate the amount of cement required, thereby eliminating the amount of cement that is pumped back out of the returns at the surface.

As to additional actual trials at Fitts, another well at Fitts was drilling in the Hunton lime at a depth of 3,561 feet and experienced loss of circulation. One ton of the sealing material was mixed with the mud in the pits and pumped into the well with the result that complete circulation was regained. Two pits of mud had been lost just prior to the use of the sealing material. Small amounts of sealing material were added to the mud while they continued drilling through the Hunton lime and until they had reached the top of the Viola lime where a string of casing was run.

Another well in the Fitts Pool experienced a loss of mud in the slush pit. The loss was stopped when one-half ton of sealing material was added to the mud in the pit.

As a result of the successful use of the material in the Fitts Pool, the Phillips Petroleum Co. used the sealing material mixed with cement in cementing 13⅜-inch casing in a well in Kansas located in an area where considerable trouble had been experienced in losing cement in the Dakota formation. The sealing material was added to the cement in the proportion of 2 per cent by weight. This job has been reported as entirely successful.

It is believed that this work is a step forward towards eliminating lost circulation problems that have been very bothersome in the past. The work is being continued both in the laboratory and in the field.

Central West Fields

(Continued from Page 59)

In DeKalb County, Scott Stamler of Quincy, Mich., is drilling on the Mary Milks farm, NE NE Section 5, Smithfield Township.

In DuBois County, F. L. Damron's No. 2 on the Anthony Humbert farm, SW SW Section 25, Marion Township, was dry, total depth 750 feet.

In Jay County, Amber Oil Producing Co. is starting No. 17 on the F. E. Davis farm, NE NW Section 21, Penn Township. Its No. 6 L. W. Edmundson, E half NE Section 24, is a good gas well at 1,030 feet. In Bear Creek Township William Messeal is drilling for Mrs. Miller on the Jeffries farm, C SE NW Section 21.

In Knox County, Mead Oil Co.'s No. 2 M. M. Hall farm, SE NW Section 14, Busseron Township, showed 1,000,000 feet at 675 feet. Its No. 2 N. A. Hall farm, NE NW Section 13, reported 2,875,000 feet at 618 feet. Its No. 1 Effie Taylor farm, NW SW Section 12, same township, produced 1,278,000 feet at 617 feet. Its No. 1 R. M. Bond, NE NE Section 14, same township, was dry at 854 feet. National Consumers Oil Co.'s No. 1 Burton Yates farm, SE NE Section 15, same township, produced 20 bbls. initial at 3,041 feet. In Johnson Township, W. A. Sage is drilling No. 3 J. W. Emmison farm, S half of Survey 11, below 1,580 feet.

In Perry County, Rome Oil Co.'s No. 1 Henry Dutschke farm, NW NW Section 28, Tobin Township, is shut down. N. N. Smith is drilling on the Hawhee farm below 300 feet. In Oil Township, O.W.L. Oil Co. has abandoned No. 1 James M. Flannagan at 207 feet without being completed.

Canadian Fields

(Continued from Page 71)

Valley Field, outcrops, and there are chances of production in both the lower porous horizon of the Madison and the Devonian lime.

Aldersyde Structure

On the Aldersyde structure, east of the Turner Valley Field, Ranchmen's Gas & Oil Co.'s No. 1, LSD 16, Section 13-20-28w4, is deepening below 6,270 feet with additional shows of gas and oil.

Approximately 2½ miles to the southwest, Globe Royalties' No. 1, LSD 3, Section 2-20-29w4, is moving heavy duty standard equipment to location. Drilling will be handled by the Globe Development Co., Ltd. of Calgary. Officers of Globe Royalties, Ltd. are: President, Robert Gilruth; vice president, James Millard; secretary-treasurer, Frederick Nye; managing director, Maynard J. Davies; director, J. A. Mitchell. No. 1 will spud early in May.

South Turner Valley

In the far south end of South Turner Valley, Union-Freehold Oil Corp.'s No. 1, LSD 8, Section 21-18-2w5, is preparing to drill into production after cementing casing in the top of the Madison limestone at 5,610 feet. On the west side of the same section, North West Royalties' No. 1, LSD 5, is shut down at 3,300 feet.

Farther north, in Section 28-18-2w5, Publix Oil & Gas Co.'s No. 1, LSD 8, is more than 600 feet in the lime below 5,520 feet and deepening. It has about 5,000,000 feet of wet gas and a small naphtha recovery.

North Turner Valley

In the North Turner Valley Field, Royalite Oil Co.'s No. 26, LSD 5, Section 23-20-3w5, offsetting Model Oils' No. 1 producer some 800 feet to the southeast, is below 4,789 feet.

British Columbia

In the Sage Creek area, southeastern British Columbia, Columbia Oils' No. 1 is deepening below 2,800 feet. It has been getting good shows of oil and gas from 2,393 feet. The hole was drilled to 1,961 feet with cable tools. The location is just north of Glacier Park, and equipment is trucked from White Fish, Mont. The structure shows an overthrust of Cambrian rocks with the younger petroliferous formations beneath, and oil and gas seepages are numerous in the Sage Creek and Flathead Valley areas. George W. Brake is in charge of operations.

Saskatchewan

It is expected that Imperial Oil, Ltd., will include extensive Saskatchewan areas in its projected new development campaign. Work will be commenced this year with an exhaustive geological and seismographic survey of oil and gas prospects, to be followed late in 1935 or early in 1936 by actual drilling.

Ontario Drilling

In the Dover Field, Kent County, Ontario, Ajax Oil & Gas Co.'s No. 1, Harry Stirling farm, Lot 1, Concession 4, Dover East Township, got the Trenton limestone at 2,920 feet and finished at 3,131 feet with initial open flow of around 600,000 feet a day. It will be shot. Prairie Oil & Gas Co.'s No. 3, Stephens farm, Lot 2, Front Concession, got the Trenton limestone around 2,900 feet and is below 3,080 feet with two pays of gas.

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